



Incident Management Software for Emergency Response

Market Survey Report

January 2022



**Homeland
Security**

Science and Technology





The *Incident Management Software for Emergency Response Market Survey Report* was prepared by the National Urban Security Technology Laboratory in collaboration with Pacific Northwest National Laboratory for the U.S. Department of Homeland Security, Science and Technology Directorate. Pacific Northwest National Laboratory support is funded under Interagency Agreement No. 70RSAT18KPM000187.

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FOREWORD

The U.S. Department of Homeland Security (DHS) established the System Assessment and Validation for Emergency Responders (SAVER) program to assist emergency responders making procurement decisions. Located within the Science and Technology Directorate (S&T) of DHS, the SAVER program conducts objective assessments and validations on commercially available equipment and systems and develops knowledge products that provide relevant equipment information to the emergency responder community. The SAVER program mission includes:

- Conducting impartial, practitioner-relevant, operationally oriented assessments and validations of emergency response equipment
- Providing information—in the form of knowledge products—that enables decision-makers and responders to better select, procure, use and maintain emergency response equipment.

SAVER program knowledge products provide information on equipment that falls under the categories listed in the DHS Authorized Equipment List (AEL), focusing primarily on two main questions for the responder community: “What equipment is available?” and “How does it perform?” These knowledge products are shared nationally with the responder community, providing a cost-saving asset to DHS by ensuring federal, state and local responders are prepared to make operational and procurement decisions.

The SAVER program is managed by the National Urban Security Technology Laboratory (NUSTL). NUSTL works with stakeholders to identify and prioritize project topics that address emergency responder needs, develops SAVER knowledge products and coordinates with other organizations to leverage appropriate subject matter expertise.

NUSTL provides expertise and analysis on a wide range of key subject areas, including chemical, biological, radiological, nuclear and explosive weapons detection; emergency response and recovery; and related equipment, instrumentation and technologies. Under its SAVER program, NUSTL— in conjunction with Pacific Northwest National Laboratory (PNNL)— conducted a market survey of commercially available incident management software for emergency response. This technology falls under the AEL numbers 04AP-03-GISS, titled “System, Geospatial Info;” 04AP-05-CDSS, titled “Systems and Tools, ICS,” and 04AP-05-SVIS, titled “Software, Operational Space Visualization.”

For more information on NUSTL’s SAVER program and incident management software for emergency response or to view additional reports on other technologies, visit: www.dhs.gov/science-and-technology/SAVER.



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EXECUTIVE SUMMARY

Incident management software (IMS) consists of a suite of tools that aggregate planned or no-notice critical incident information in a real-time collaborative environment such that situational status, response priorities, and resource deployment are brought into a common operating picture. IMS brings together diverse types of data (e.g., map views, property information, sensor data, resource tracking, computer aided dispatch) in a multilayered format. In doing so, it provides first responders and emergency managers access to the information they need to manage small scale (e.g. house fires) and large scale no-notice incidents (e.g., earthquakes) as well as planned events (e.g., parades, sporting events, protests). Emergency management, fire service, law enforcement, emergency medical services, and other response agencies use IMS to conduct planning, multiagency coordination, resource allocation, asset tracking, and information collection and analysis all of which aid decision-making and allow for after-action reporting and auditing.

Between July 2020 and December 2020, the National Urban Security Technology Laboratory's (NUSTL's) Systems Assessment and Validation for Emergency Responders (SAVER) program conducted a market survey of incident management software for emergency response. All products included in this survey are commercially available, incorporate geographic information systems (GIS), and operate on both desktop and mobile devices. The results are compiled into this report. The survey identified 38 products that span a wide range of features and deployment options. The products commonly incorporate functions for sharing map-based information, tracking vehicle locations, collaborating, and event logging. The products have various configuration options including software as a service, standalone installations, and mobile client software with a cloud or dedicated backend server.

The purpose of this report is to provide emergency managers and responders with information that will guide response agencies in making operational and procurement decisions. The information included in this report has not been independently verified by the SAVER program. When weighing a procurement decision, emergency response agencies should carefully research the overall capabilities, limitations and technical specifications of each product contained in this summary as well as other products in the commercial marketplace in relation to their agency's operational needs.



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1.0 INTRODUCTION

Incident management software (IMS) consists of a suite of tools that captures and consolidates information in a real-time collaborative environment to provide users with situational awareness of incident response. IMS provides users with real-time geospatial views of an operating area and associated emergency response resources and hazards. By aggregating real-time and historic incident information in an intuitive map-based interface, IMS assists first responders with planning for, managing, and reporting no-notice incidents large and small (whether house fire or earthquake) as well as planned events, such as parades, sporting events, and protests. IMS can be used by responders and incident commanders at the location of an event or by Emergency Operations Center (EOC) personnel remotely. Emergency management, fire service, law enforcement, emergency medical services (EMS) and other response agencies can use IMS for multiagency coordination; asset tracking; resource allocation and prioritization; and after-action analysis and auditing.

Between July 2020 and December 2020, the System Assessment and Validation for Emergency Responders (SAVER) program conducted a market survey of IMS for emergency response. This survey report is based on information gathered from manufacturer and vendor websites, industry publications, interviews with emergency responders, and a government-issued request for information posted on the System of Award Management. The U.S. Department of Homeland Security (DHS) Science and Technology Directorate's (S&T's) Technology Scouting Group also contributed to the market research used to develop this report.

Incident management software had to possess, at a minimum, the following key characteristics to be included in this report:

- Availability to emergency responder organizations as a commercial off the shelf (COTS) or government off the shelf (GOTS) product
- Capabilities for pre-event planning and/or incident management
- Capability to incorporate geographic information systems (GIS) and to provide real-time geospatial views of an operating area
- Ability to operate on both desktop and mobile devices

Due diligence was performed to develop a report that is representative of products in the marketplace. The product information in this report has not been independently verified by the SAVER program.

2.0 INCIDENT MANAGEMENT SOFTWARE OVERVIEW

In this report, the key features of IMS are grouped into the following categories: tools, interoperability, communication, and system requirements.

“Tools” includes features dedicated to planning, active incident management, and post-incident management. For instance, for pre-event planning tools, one might use training features or a collaborative development feature that creates and disseminates incident action plans (IAPs). Other tools include those for active incidents, like features that provide a common operating picture and send real-time alerts, allow asset tracking, or enable/restrict user permissions based on their role in the incident. Among post-incident tools are those features that use recorded logs to replay events, assist with audits and after-action reporting, and provide scenarios for future training exercises.

“Interoperability” refers to effective or seamless communications between responders and operations and data exchange with other software systems and databases, such as computer aided dispatch (CAD) systems, enterprise geographic information systems (GIS), and systems within other entities (e.g., fire or police agencies). For the software in this report, common and open data formats and web-based exchange protocols are documented in Table A-1. Another aspect of interoperability is the software’s scalability – the ability to quickly increase the number of users for large or multi-entity events. Interoperability of software systems can be an important consideration depending on the needs and operational setup of an organization.

“Communication” features make possible one of the primary functions of map-based incident management technology, whether through a feature offering inter-operable data communication across disparate data sources (like CAD systems and sensors) or a feature for communicating with team members. Team communication features such as encrypted messaging; all-team alerts; geotagged photo or video sharing; map annotation markups; automatic vehicle location (AVL); and global positioning systems (GPS) location sharing are some of the common capabilities offered by these products.

“System requirements” are those features related to the hardware and operating systems. Hardware and operating system requirements vary and depend on whether the software runs locally (i.e., on the device) or in a cloud-computing environment. Locally installed software requires specific operating systems (e.g., iOS, Android, Windows) and does not necessarily depend on a remote server for functionality. Cloud-based software as a service (SaaS) options allow additional flexibility in minimum hardware requirements and operating system choice, as software runs on a remote server and individual devices access the software with a web browser or installed app; however, cloud-based IMS have increased requirements for reliable data communications.

The variety of features, their functions, and requirements available across commercially available IMS makes it necessary for would-be buyers to carefully consider each product’s mixture of capabilities when determining a software’s fitness for a particular purpose.

2.1 Deployment Considerations

Incident management software products are deployed in varying configurations, ranging from a single-user on a tablet to a full-enterprise implementation incorporating a 911 dispatch center, emergency operations center (EOC), incident command, and multiple agencies. The following categories provide helpful characterizations of today's range of deployment options and would be considered primarily by an organizations' IT department:

- **Stand-alone installations on a client-side mobile device (i.e., smartphone or tablet) with peer-to-peer connectivity amongst users.** These options are generally low-cost or no-cost solutions, whether proprietary or open-source. They may, however, require an elevated knowledge of system configuration and deployment.
- **Locally installed client-side software (for mobile device or laptop) with connectivity to one or more dedicated backend servers.** Depending on the mobile device, these software packages are installed via Android Play Store, Apple App Store, Microsoft Store, or, when using a laptop, downloadable program installation files. Depending on the complexity of the local setup, the backend server is responsible for coordinating, routing, and syncing communications and data updates between field operation mobile devices and a command center. Setting up a dedicated backend server requires knowledgeable IT staff or hiring a software vendor to configure the system for the end-users.
- **Locally installed client-side software (for mobile device or laptop) with connectivity to a cloud platform rather than a local server.** In this case, the back-end server is part of the cloud system, relieving the hosting entity of the need to purchase and maintain hardware and the need to maintain security. This option enables rapid scale-up if needed for large or multi-agency events. In many cases, software vendors provide cloud-based services, so their systems are easier to deploy.
- **Software as a Service (SaaS) deployments that require only a web-browser to access data on a dedicated and configured remote server or a cloud-based host. (These may not require any software installation on the mobile hardware.)** This kind of deployment approach largely alleviates the need for software maintenance on client mobile devices and provides flexibility in hardware and operating system choices.
- **Hybrid deployments** may include some or all of the above deployment configurations.

Because all IMS products rely on data communications (e.g., cellular, data over radio, direct internet connection) to varying degrees, a major consideration is the system's resilience to continue its critical functions and data recording in the event of a network interruption. Many software packages implement local device caching, both reading and writing data, to remain functional even when data transmission is disrupted. When data communications are restored, data syncing occurs amongst respective devices and backend server or cloud systems. In evaluating software products, it is important to gather and weigh specific information on which capabilities are still functional during periods without an active data communication pathway.

Pricing structures for software vary depending on configuration and deployment. Factors include whether the client software is installable or SaaS-accessed via web-browser, the requirements for dedicated backend server and software or cloud-based software configuration, cloud-hosting fees including data storage and network traffic requirements, and the number of users or devices. In general, commercial SaaS software is set up as a subscription service, while other deployments may look more like an initial software purchase with an annual software maintenance fee to enable regular software updates, upgrades, and customer training. Organizations interested in maintaining ownership of data should confirm that as part of the user agreement.

2.2 Uses

Incident management software is used for both planned events and no-notice incidents. Planned events are those for which analysis and planning can be conducted ahead of time (e.g., parades, sporting events, protests). IMS may contain planning tools that allow pre-loading of site-specific features including building maps, standpipes, emergency exits, aid stations, fire hydrants, hazards, or barriers, making important information readily available to first responders. IMS can be used to generate action and resource plans, identify and allocate resources based on an assessment of threats and vulnerabilities, and track and manage assets and personnel.

Large no-notice incidents are those that affect large areas and communities. Examples of large no-notice events include flash floods, earthquakes and wildfires. IMS is used to quickly deploy and track numerous resources over large areas and multiple operational periods, to incorporate tactical dispatch, and to communicate with field personnel and other agencies.

Small no-notice incidents are those that affect small areas and communities; these can quickly develop into large no-notice incidents if not contained. Examples include house fires, gas leaks, accidents and shootings. IMS is used to quickly assess the types of resources needed and to task and deploy available resources and personnel. IMS allows first responders to integrate and view all local incidents to avoid duplicate incident notification. IMS also provides users with the ability to record all incident activities to share with other agencies, utility companies and personnel.

2.3 Standards/Regulations


2.3.1 FEMA's National Incident Management System

Initially issued in 2004 and updated in 2017, the Federal Emergency Management Agency's (FEMA) [National Incident Management System \(NIMS\)](#) [1] provides a framework to guide all levels of government, non-governmental organizations, and the private sector to work together to prevent, mitigate, respond to and recover from incidents. NIMS provides stakeholders with a shared vocabulary, systems, and processes to deliver the capabilities described in FEMA's [National Preparedness System](#) [2]. NIMS defines operational systems, including the Incident Command System (ICS), Emergency Operations Center (EOC) structures, and Multiagency Coordination Groups (MAC Groups) that guide how personnel work together during incidents. NIMS applies to all incidents, from traffic accidents to major disasters.

ICS is a standardized approach to the command, control, and coordination of on-scene incident management. It provides a common hierarchy that allows personnel from different organizations to work together effectively. ICS specifies an organizational structure for incident management that integrates and coordinates a combination of procedures, personnel, equipment, facilities, and communications.

In order to aid the implementation of NIMS and ICS, FEMA provides the [ICS Forms Booklet](#) [3]. These forms are specifically for use within the ICS and complement existing incident management programs and emergency operations plans, laws, and ordinances. The forms are intended as tools for support and documentation of ICS activities, other incident management activities, and for the creation of an Incident Action Plan (IAP).

An IAP is central to managing the response to an incident using ICS. The team managing an incident develops an IAP for each operational period, using a standard ICS incident action planning process. The IAP communicates the incident objectives and the tactics used to manage the incident during the operational period defined in that plan.



Incident management teams can use standardized ICS forms to constitute core parts of an IAP, such as ICS 202 (Incident Objectives), ICS 203 (Organization Assignment List), ICS 205 (Incident Radio Communications Plan), ICS 208 (Safety Message/Plan), and many others. More information is available in the [FEMA Incident Action Planning \(IAP\) Guide](#). [7]

Given that NIMS and ICS are standard processes routinely implemented across the first response community, many IMS have incorporated NIMS/ICS-consistent terminology and tools into their products, and in some cases, allow for agency-customized forms and processes to be added.

2.3.2 Open Geospatial Consortium (OGC) Web Map Service Standard

The OGC OpenGIS® [Web Map Service Interface Standard \(WMS\)](#) [5] [6] provides a HTTP interface for requesting geo-registered map images from geospatial databases. The request defines the area and geographic layers required. The response to the request is one or more geo-registered map images (returned as JPEG, PNG, etc.) that can be displayed in a browser application. Many IMS products use WMS for map-based information (Table A-1).

2.3.3 Use of Grant Funds for Certain Telecommunications and Video Surveillance Equipment or Services

The John S. McCain National Defense Authorization Act for Fiscal Year 2019 (NDAA), Pub. L. 115-232, Section 889 (NDAA) prohibits the use of federal funds, including loan and grant¹ funds, to obtain or acquire certain telecommunications technologies manufactured by certain entities or to enter into contracts with entities that use those technologies. The Office of Management and Budget (OMB) published regulations at 2 C.F.R. § 200.216 to clarify the application of the NDAA to the use of federal grant funds to procure or obtain certain telecommunications equipment or services.

Effective August 13, 2020, federal grant recipients and subrecipients (i.e., **non-federal entities**) are prohibited from obligating or expending loan or grant funds to procure or obtain² the following “covered telecommunications equipment or services”:


- Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities)
- For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by:
 - Hytera Communications Corporation
 - Hangzhou Hikvision Digital Technology Company
 - Dahua Technology Company
 - or any subsidiary or affiliate of such entities
- Other entities identified by the Secretary of Defense

The restriction also applies to systems that use the covered equipment or services as a substantial or essential component, and to subsidiaries or affiliates of those listed above³. See <https://www.federalregister.gov/d/2020-17468/p-877>. [7]

¹ This also includes cooperative agreement funds.

² Nor may they extend or renew a contract to procure or obtain, or enter into a contract to procure or obtain the covered equipment or services.

³ as well as telecommunications or video surveillance services provided by entities or using equipment described above



Costs associated with covered equipment and services are “unallowable” for grant funding. Grant recipients are responsible for ensuring funds are used only for allowable costs, and would be obligated to refund the government for unallowable costs. The Federal Emergency Management Agency (FEMA) issued [FEMA Policy #405-143-1](#), Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services (Interim) [8] for further guidance on the Section 889 prohibitions. Additionally, OMB issued [frequently asked questions \(FAQs\)](#) on the topic.

For **federal** entities, FEMA published interim rules amending the Federal Acquisition Regulation⁴. [9][10]

3.0 PRODUCT INFORMATION

This report provides information on 38 incident management software products. These products are listed alphabetically by vendor in Table 3-1, which provides a summary comparison of general product characteristics as well as tools and communication features. Product names appear in bold. Sections 3.1 through 3.38 offer further details about each product. Features of the products considered “system specifications” along with additional technical requirements of for the various software packages appear in Table A-1 in the Appendix.

Product information presented in this report was obtained directly from manufacturers, vendors and their websites from July to December 2020. If a vendor did not directly respond to the government-issued request for information, the corresponding product’s information may be more limited. The SAVER program has not independently verified product information.

Standard features across all products for which vendor information was provided include role-based or customizable access levels, and encrypted communications. For products that integrate with external feeds (like sensors, weather, AVL, or CAD), emergency response agencies should confirm with the vendor which specific data communication protocols are accepted.

Product information in Table 3-1 (listed in column order) is defined as follows:

Cost indicates the license or subscription price of the software. If the vendor quoted a monthly cost, the price has been multiplied by 12 to show the annual cost. Some products include maintenance and support costs bundled within their price; others charge for these separately. Pricing may vary based on the options selected. Volume purchase discounts may be available; these are noted if the vendor provided that information. Please see the product descriptions for more detailed information.


Supports IAP Development indicates whether the software has the capability to generate reports to support the development of a standard incident action plan.

Collaborative Planning indicates whether the software has tools and capabilities for plans and planning documents to be created jointly across users or even agencies.

Task/Schedule Planning indicates whether the software can document and disseminate plans for resource tasking and scheduling.

Real-Time Incident Notification indicates whether the software provides real-time alerts notifications (e.g., text messages indicating lost children, altercations, unattended packages, medical issues).

⁴ <https://www.federalregister.gov/documents/2019/12/13/2019-26579/federal-acquisition-regulation-prohibition-on-contracting-for-certain-telecommunications-and-video> and <https://www.federalregister.gov/documents/2019/08/13/2019-17201/federal-acquisition-regulation-prohibition-on-contracting-for-certain-telecommunications-and-video>



Personnel Tasking indicates whether the software supports assigning personnel to specific tasks and tracking the progress and timing of those tasks.

Fleet Tracking indicates whether the software is able to track vehicles and display an overview of the geographic locations of an agencies' vehicle fleet. This is enabled by communication with automatic vehicle location (AVL) systems that automatically determine and transmit each vehicle's GPS location.

Event Logging indicates whether the software can save information regarding event activities and actions (e.g., tasking; personnel and asset movement; CAD notifications; messages; photos; hazard mapping, collaborative map markups; decision points) that can be used for after-action reviews and audit reporting.

CAD Communication indicates whether the IMS integrates with software used for computer aided dispatch (CAD). CAD software is used to support the efficient dispatch of emergency services to a location in response to a 911 call or other public safety call for service.

Photo Sharing indicates whether the software has the ability to transmit photographs to command or companion field devices to enhance situational awareness.

GPS Sharing indicates whether the software can determine, transmit, and display the geographic location of mobile users in the field.

Map Annotation Sharing indicates whether a software allows users in the field to annotate a map and share the annotations to the map with command and other users.

Street Level Views indicates whether the software allows a user to view an area from the perspective of the street, rather than the traditional planimetric map perspective.

Live Weather indicates whether the software supports integration with a real-time data feed conveying active or forecasted weather information.

Sensor Feed indicates whether the software supports data feeds from external sensors, for example, chemical, biological, radiation, nuclear and explosives (CBRNE) sensors.

Social Media Feed indicates whether the software can display filtered content from aggregated social media platforms to provide additional local intelligence on a crisis or event as it unfolds.

Table 3-1 Product Feature Comparison Matrix

Vendor/Product (product name in bold)	Cost	Planning				Incident Management				Communication			Data Feeds/Integration			
		Supports IAP Development	Collaborative Planning	Task/Schedule Planning	Real Time Incident Notification	Personnel tasking	Fleet Tracking	Event Logging	CAD Communication	Photo Sharing	GPS Sharing	Map Annotation Sharing	Street Level Views	Live Weather	Sensor Feed	Social Media Feed
Adashi Systems LLC Adashi Command & Control	–	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	✓	✓	–	✓	–
Advanced Ground Information Systems Inc (AGIS) LifeRing	\$350/year per user	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	
Ardent Management Consulting Responder Cloud	–	–	–	–	–	✓	✓	✓	✓	✓	✓	–	–	✓	✓	–
Ares Security Corp AVERT C2	\$24,000/year per org.*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bradshaw Consulting Service Inc. MARVLIS	–	–	–	✓		✓	✓	✓	✓		✓	✓		✓	✓	
Buffalo Computer Graphics DisasterLAN (DLAN)	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CORVENA COR	–	✓	✓	✓	✓	✓	✓	✓		✓		✓		✓		✓
D4H Technologies Ltd D4H Incident Management	–	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		
Drakontas LLC DragonForce	\$120/year per user	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Dynamis Inc. COBRA	\$500/year per user*	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	
Esri ArcGIS Mission	~\$8,000/purchase ‡	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	

Vendor/Product (product name in bold)	Cost	Planning				Incident Management				Communication			Data Feeds/Integration			
		Supports IAP Development	Collaborative Planning	Task/Schedule Planning	Real Time Incident Notification	Personnel tasking	Fleet Tracking	Event Logging	CAD Communication	Photo Sharing	GPS Sharing	Map Annotation Sharing	Street Level Views	Live Weather	Sensor Feed	Social Media Feed
Esri ArcGIS Solutions App	~\$5,000/ purchase ‡	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Esri ArcGIS Hub	~\$500-4000/ year ‡				✓		✓	✓		✓	✓	✓		✓	✓	✓
Everbridge Critical Event Management Platform †	~\$71/year per user (150 user min.)	✓	✓	–	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
First Due First Due	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	Y
Geopliant Crisis Track	–	✓	✓	–	–	✓	–	–	–	✓	✓	–	–	–	–	–
GeoSafe Inc. GeoSafe	–	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓
GeoSpatial Technologies Inc. GST Tracker Suite	\$120/year per user	✓	✓	–	✓	✓	✓	✓	✓		✓	✓				
Hangar 14 Solutions LLC StreetWise CADlink	\$180/year per device	✓		–			✓	✓	✓	✓	✓	✓	✓		✓	
Digital Sandbox (dba Haystax Technology Inc.) Constellation	\$36,000- 250,000/ year depending on jurisdiction size	✓	✓	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hexagon HxGN OnCall Dispatch Suite	See product description	✓	✓	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Incident Response Technologies Rhodium	\$630/year per user*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Vendor/Product (product name in bold)	Cost	Planning				Incident Management				Communication			Data Feeds/Integration			
		Supports IAP Development	Collaborative Planning	Task/Schedule Planning	Real Time Incident Notification	Personnel tasking	Fleet Tracking	Event Logging	CAD Communication	Photo Sharing	GPS Sharing	Map Annotation Sharing	Street Level Views	Live Weather	Sensor Feed	Social Media Feed
Intterra Intterra Incident Management	–	✓	✓	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–
Intrepid Networks Intrepid Response	\$156/year per user		✓	–	✓	✓	✓				✓	✓	✓		✓	
Juvaré LLC WebEOC Pro	Priced per 250-user bundle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Mission Manager Inc. Mission Manager	–	✓	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	–	✓	–	✓
Motorola Solutions Command Center	–		✓	–	✓	–	✓	✓	✓	✓	–	✓	✓	✓		
Mutualink Inc. Interoperable Work Station (IWS)	\$1,428/year	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
nFocus Solutions (dba SWMG Productions, Inc.) GeoSuite	\$700/year per user	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Noggin IT Inc. Noggin 2.0	\$5,940/year per 5 users*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Priority 5 Holdings Inc. Touch Assisted Command and Control (TACCS)	\$48,000/year per 10 users	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
StratoTask VANTAGE	\$2000/year per fire station	✓	✓	✓		✓	✓	✓	✓	✓		✓				
Strax Intelligence Group STRAX Platform	–	–	–	✓	✓	–	–	✓	✓	✓	–	✓	–	–	✓	–

Vendor/Product (product name in bold)	Cost	Planning				Incident Management				Communication			Data Feeds/Integration			
		Supports IAP Development	Collaborative Planning	Task/Schedule Planning	Real Time Incident Notification	Personnel tasking	Fleet Tracking	Event Logging	CAD Communication	Photo Sharing	GPS Sharing	Map Annotation Sharing	Street Level Views	Live Weather	Sensor Feed	Social Media Feed
Tablet Command Inc. Tablet Command	\$675/year per user			✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		
Team Awareness Kit TAK	Free		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
The Response Group IAP Software	\$2,900/year per 10 users	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
Tyler Technologies New World Public Safety	—	✓	✓	—	✓	—	✓	✓	✓	—	—	✓	—	—	✓	—
Veoci	—	✓	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	—	✓
Worldwide Incident Command Services Inc. Raven Emergency Management Platform	\$10/year per user	✓	✓	—	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	
Zco Corporation Geoteamz	—		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes:

— indicates information was not provided by the vendor and/or could not be confirmed via the vendor website or another source

* indicates volume discounts are available

† indicates this product information was provided by ThunderCat Technology not by Everbridge Critical Event Management

‡ indicates that pricing varies according to number of users and selected options; value listed is an estimate

3.1 Adashi Systems – Command and Control (C&C)

Adashi Systems C&C is an incident management platform that is designed to help responders and commanders manage small to large incidents. The software provides fire and police commanders with enhanced situational awareness, tactical planning functions, interoperability and resource management.

The product supports a NIMS-based command structure. Incident action plans can be pre-loaded and accessed directly via the application. Mobile units can receive CAD entries or customized resource requests. The software uses map-based navigation providing situational awareness functionality via a user-customized GIS. The software is designed for interoperability and collaboration for multiple teams or agencies and provides on-screen annotation of maps, sketches, or photos with secure two-way sharing of customized content. Groups, roles, and tasks can be assigned in a NIMS-based structure. Event logging and after-action reporting are supported. The platform has an Esri-based map engine with local caching of critical data to remain operational with or without network access.

Adashi C&C can be installed on Windows PCs and Windows-based mobile devices. Adashi Notify, a companion mobile app, allows the system to be accessible using Android and iOS devices. Adashi C&C requires a local installation (i.e., it is not designed to be used on a web browser). Mobile devices using Notify require a cellular card for access to the server, as well as a GPS card for routing and AVL tracking. Users can choose maps from available Esri⁵ data, Google Maps (including Street View), Bing, Pictometry (where available), and Navteq maps. Weather station feeds can be viewed in the interface or integrated in the format for plume modeling.

Pricing information for C&C is available from Adashi Systems. Adashi offers online training resources for registered users and offers in-person and remote instructor-led training at an additional cost. Customer support is available via email and phone.



Figure 3-1 Command and Control, Mobile View

Image credit: Adashi Systems

⁵ Esri is a U.S.-based company with a large international market share for supplying GIS products.

3.2 Advanced Ground Information Systems Inc (AGIS) – LifeRing

LifeRing enables users to employ networked, handheld devices to share incident information within a geospatial platform. The map-based display allows users to see their present location while viewing the location and status of all other users. Collaborative functions include sharing maps or geo-positioned photos with annotations, full-motion video, real-time incident notifications and a digital geofence crossing alert. The exchange of all information on the platform occurs in real-time and uses industry-standard encryption. LifeRing also provides the means to communicate via integrated push-to-talk (PTT) capability, text messaging or chats, and voice. Event information is simultaneously shared, viewed and recorded at the incident operations center and can be used for after-action reporting, post-event audits, analysis, and future training. LifeRing features role-based access and allows users to form groups with private group names for secure communications. The software does not integrate directly with CAD systems but contains a set of CAD functions.

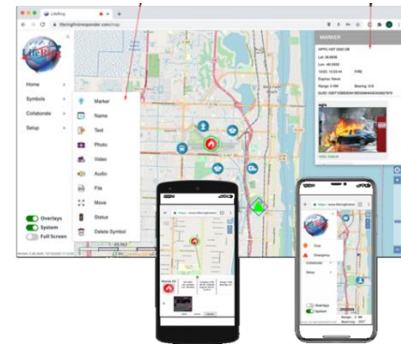


Figure 3-2 LifeRing, Desktop & Mobile Views

Image credit: AGIS

This software can be used as browser-based (SaaS) or installed locally on Windows desktop and both Android and iOS mobile devices. LifeRing can continue operation if the network/data connection is lost. Users can deploy LifeRing using their own server, or it can be run on most any other shared hosting environment. The LifeRing map engine can import nearly any GIS vector or raster data format. The map supports the Open Geospatial Consortium (OGC) OpenGIS® Web Map Service Interface Standard for web-based map content (e.g., Esri data, live NEXRAD, agency posted data.) At the time of this writing, a social media feed is not integrated into the software.

The cost for LifeRing licenses for each individual user is \$350 plus the cost of purchasing a server (~\$2500-\$5000). General Services Administration (GSA) pricing is available. The software license is purchased at a fixed price, and support is free in the first year of use. Maintenance and upgrades are covered in the subsequent years at the cost of 20% of the initial license price.

3.3 Ardent Management Consulting – Responder Cloud

Responder Cloud allows for sharing emergency response information across multiple agencies' devices, including desktops and mobile devices. The system supports vehicle tracking and map sharing among users. Responder Cloud employs both open source and Esri map-based dashboards to visualize the data during emergency situations. In addition to map data pulled from Ardent tools, the dashboards allow users to visualize data from other sources. The system supports rules for data filtering and connections to external databases, allowing delivery of information to virtual databases as per predefined specifications. Administrative controls and user authentication allow for the sharing of information to users with a specific, assigned role. The system integrates with CAD programs via a third-party plug-in.

Responder Cloud is delivered as SaaS and can be operated on any device with a web browser and data connection.

Pricing information is available from Ardent Management Consulting.



Figure 3-3 Responder Cloud, Mobile View

Image credit: Ardent Management Consulting

3.4 ARES Security – AVERT C2

The AVERT C2 platform is a real-time domain awareness tool that brings data together for facility monitoring, public safety, critical infrastructure, and rapid response. The software integrates information into customized dashboards in order to streamline workflows. AVERT C2 alerts and provides information to users, enabling incident managers to quickly execute an appropriate response. It is a modular, scalable, customizable system that can integrate disparate systems and sensors and securely share information with partner organizations.

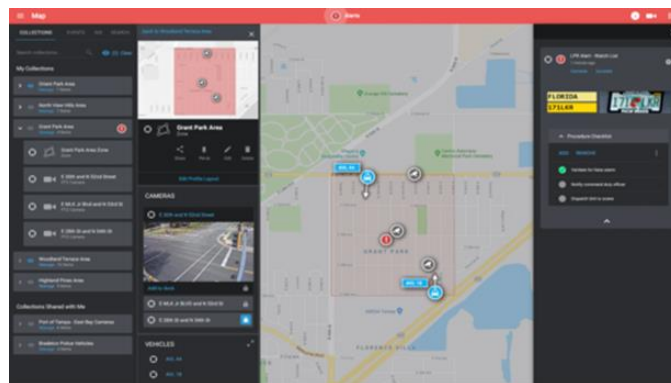


Figure 3-4 AVERT C2, Desktop View

Image credit: ARES Security

AVERT C2 supports planning via IAPs, integrated assets lists, secured messaging, notes and file sharing, indicating proximity zones, and logging activity on an events timeline. User data policies can be configured to regularly share data with other organizations or to automatically share data with designated partners upon activation of an event. Facility diagrams and assets can also be loaded into the system and shared with partner organizations to enable a coordinated response. The software supports activity logging to provide an audit trail, after-action reporting, and analysis. A replay application is also included that records all geospatial activities and movements on the map and can be exported in a video format.

The AVERT system operates as SaaS and can be run on any hardware platform that supports the latest version of Google's Chrome web browser. The system's deployment requires two local backend servers: an application server and a database server. Administration of role-based access allows for personalized data views and editing. Each user can configure data layers, reports, units of measure, time formats, map overlays, data profiles and various user settings within the system to build custom dashboards. The system supports most common GIS data formats (e.g., GeoJSON, shapefiles, GeoTIFF) as well as OGC web services (e.g., WSC, WFS, WMS and WMTS). Data storage can be designated by organization administrators and configured by ARES Security's support team. Additional configurations, permissions and data sharing policies are available to the system administrators within each organization.

ARES Security is designed for large, host organizations, so it does not charge per user. The base SaaS platform can be purchased for \$2,000 per month. Discounts are available for yearly or multiple-year plans. Additional integrations and services can be bundled into the base cost. Perpetual licenses range from \$125,000 to \$250,000 depending on the size of the organization, and enterprise licenses are also available for larger regions and states. For perpetual licenses, annual maintenance costs are typically 20% of the license cost. The SaaS license includes maintenance and customer support in the base price. GSA pricing is available. Customer support is available via email, phone, and an online service ticket request system. Training is available through online and in person and through an online knowledge base of reference tools and videos.

3.5 Bradshaw Consulting – MARVLIS

MARVLIS is a suite of applications for improving emergency response efficiency by maintaining communication between dispatchers and responders while providing functionality when data connections are interrupted. The primary focus of this product is providing a common operating picture to support decision-making during real-time operations. MARVLIS supports CAD integration and leverages GIS, wireless, and GPS technology to coordinate incident response and track resources.



Figure 3-5 MARVLIS, Desktop View

Image credit: Bradshaw Consulting

The MARVLIS interface is designed to allow various users to view operational maps showing vehicle location and real-time spatial network analyses for response coverage. The system offers encrypted CAD notification, personnel and fleet tracking, map and photo annotation and sharing, live weather, and event logging for after-action reporting. Some customization is available via user-definable options and map layers. User role settings allow for the supervisor to access and assign resources under their command, as well as view and request resources from units outside their command. The system supports routing and closest vehicle recommendations.

The software installs directly on local hardware and operates on both Windows and iOS devices under standard hardware configurations. In order to integrate with a CAD, a local server instance is required. For applications within the operations center, interactions occur over the LAN and do not require internet nor wireless connectivity. For mobile users, the software caches incoming and outgoing data and then updates once communication with the LAN is re-established. The MARVLIS system relies on an Esri map engine and utilizes only Esri ArcGIS data formats, including shapefiles, enterprise geodatabase structures, and web services including both vector and raster tiled caches.

Pricing information is available from the vendor. GSA pricing is not available. Support, maintenance and training are included in the initial price for the first year and are available at 20% of the purchase price in subsequent years. Customer support is available by phone, email, virtual conferencing or in-person.

3.6 Buffalo Computer Graphics – DisasterLAN

DisasterLAN (DLAN) is a web-based, mobile-friendly emergency management system that provides tools for shared situational awareness and workflow-based information management. It also enables real-time communication for planning, response, and reporting. DLAN simplifies planning, mission, and resource management tasks by allowing critical information to be quickly shared over secure communications. The system allows users to customize their workflows using configurable drop-down lists, checkboxes, warning messages, standardized data entry tools and data entry validation.

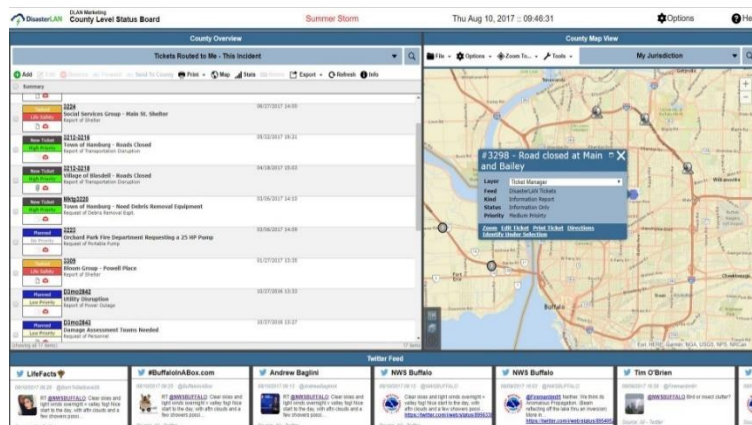


Figure 3-6 DLAN, Desktop View
Image credit: Buffalo Computer Graphics

DLAN includes tools for assigning tasks, tracking progress, locating personnel and assets, matching resources to requests, maintaining personnel and organizational records, data sharing, social media monitoring and emergency communications including internal and external emergency alerts. DLAN supports encrypted CAD notifications and two-way messaging, including sharing map and photo annotations. Built-in tools for exchanging messages and data support sharing information with partners, platforms, and stakeholders outside of the DLAN product. The system can operate when data connectivity is lost, then synchronize data once data communications are restored. The system supports visual situational awareness via dashboards and a GIS-based map interface, as well as chronological after-action reporting of all activities during an incident or event. DLAN has been evaluated against NIMS criteria through the NIMS Supporting Technology Evaluation Program (NIMS-STEP).

DLAN operates as SaaS and does not require a local server instance. The system administration module allows administrators to adapt each individual module's function and each user's experience by enabling or disabling simple settings. Administrators can also add, edit, delete, and re-order values that appear in drop-down fields for each module, ensuring that the software reflects the particular practices and policies important to that agency. DLAN supports the integration and display of GIS data from most common formats, including shapefile, KML, and GeoJSON; it can also connect to WMS services.

Pricing information for DLAN software licenses is available from Buffalo Computer Graphics. GSA pricing is available. Support is available at various levels (silver, gold, and platinum) which cover a range of service delivery options from 24/7 phone access to in-person assistance.

3.7 CORVENA – Continuous Operational Readiness (COR) Platform

CORVENA's COR platform is a collaboration tool designed for emergency managers and healthcare providers. It provides a single integrated solution for situational awareness, common operating picture, information and knowledge management, business workflow process management, and report generation.

The COR platform is designed for interoperability, collaboration, and user scaling for multiple teams or agencies. It allows for any approved user to have access to all functionality of the platform and offers an unlimited number of user accounts. System administrators can also set user roles and assign individual permissions.

Capabilities for pre-event planning include the ability to preload information such as resources, equipment, supplies, personnel, contact information, critical infrastructure, and facilities (e.g., points of dispensing, EOCs, mass care sites, and hospitals). The platform also allows users to upload supporting references such as communications plans, medical plans, and organization charts. The platform can receive real-time weather feeds and GIS datasets can be automatically updated.

COR supports development of system-generated standard IAPs. This is achieved through system-populated and formatted ICS forms readied for user-entered data. Once they have provided the information, users can generate the IAP with one click. Standard NIMS functions are integrated into the COR platform. A user can initiate an incident manually using the mobile app or through integration with a CAD system. Once an incident is established, the user can access job action worksheets, organizational charts, emergency response plans, resource requests, incident maps, and other incident management resources, many of them customizable.

COR can log events through the console version or the mobile app, which captures all activities in the system. Activities recorded are time stamped, allowing users to conduct an evaluation and generate automatic after-action reports at the conclusion of an event.

This commercial off-the-shelf solution is available as SaaS on consoles and as a downloaded app on mobile devices (iOS, Android). For the browser-based SaaS, there are no minimum hardware requirements other than an internet connection. Should the network/data connection fail, the mobile app can continue to accept data and hold it in a pending status until the service is reconnected.

CORVENA's COR platform is a subscription service, so pricing is based on a number of variables, such size of county, number of concurrent users, length of term, onsite or webinar training, and other optional integrations. Those integrations include, for example, API-enabled interoperability, mass notifications, and volunteer management functionality. GSA pricing is not available. Since it is a subscription service, there is no added cost for upgrades or maintenance. Customer support is available 24 hours per day, seven days per week over phone or by email.



3.8 D4H Technologies – D4H Incident Management

D4H Incident Management is a real-time incident management software for coordinating response to planned or emergency situations. The mobile software provides a common operating picture, facilitates communication of objectives, and supports multi-agency collaboration using forms, tasks, logs, maps, and status boards.

The software provides a suite of functions for incident management including real-time incident reporting and notification, user roles and tasking, and fleet and personnel tracking. Incident managers can launch a pre-planned response, publish a situation report, assign roles, and communicate the incident to response personnel and stakeholders. D4H Incident Management supports encrypted two-way communication including map and photo sharing with markups and annotation. The system supports full event logging to provide an audit trail for an incident and can automatically produce situation reports and after-action reports at the conclusion of the incident. The software is compatible with standard NIMS ICS forms, and through its Form Builder tool, enables the development and use of customized forms.

D4H Incident Management operates as SaaS and is compatible with any device that has a browser. It can operate without a network/data connection by automatically switching into single user mode then syncing seamlessly once communication is restored. The cloud-based application does not require a local server instance. Custom GIS data can be added to the base map in KML or JSON format. The software allows an administrator to set detailed permissions through individual credentials.

Pricing information for D4H Incident Management is available from the company upon request. GSA pricing is not available. Maintenance is included in the annual subscription fee. There is a 25% implementation fee in the first year for an implementation specialist. Customer support and training, online guides, a knowledge base, and an online service ticket request system are included in the base annual fee.

3.9 Drakontas – DragonForce

DragonForce is a command and control, shared situational awareness application that provides users a secure and customizable platform to create and share mission-critical information via a set of collaboration tools.

DragonForce facilitates group management, providing administrators the ability to add, promote, or remove members from response groups and provide the means for task assignments and tracking. The software features data sharing to enable a range of capabilities across a team including incident push notifications from an EOC; annotated sharing of photos, floorplans or other documents; collaborative whiteboarding for mission planning and operations; and display of real-time GPS or manual location of personnel and fleet assets. The communication capabilities include secure text messaging broadcasts, encrypted point-to-point, group conversations and video conferencing.

The location sharing, secure messaging, and tactical whiteboarding features allow users to update the common operating picture. Digital forms and reports are customizable, allowing for consistent data capture and archiving for situation reports and after-action reporting.

The application operates as SaaS on any desktop or mobile device that supports a web browser. The platform remains operational without network access as data is synchronized when the network/data connection is re-established. The product integrates map-based functionality; a local server instance is required as a map and application server. The mapping features support the addition of shapefiles and KML/KMZ. An API is available to add external data. Currently, live feeds from remote sensors can be integrated indirectly via OGC-compliant tiled image service. Future plans include adding JSON file support for direct integration of sensor feeds.

An individual DragonForce subscription is \$120 a year per device. Maintenance costs for SaaS deployments are included in the annual subscription. Customer support is available by phone and email.

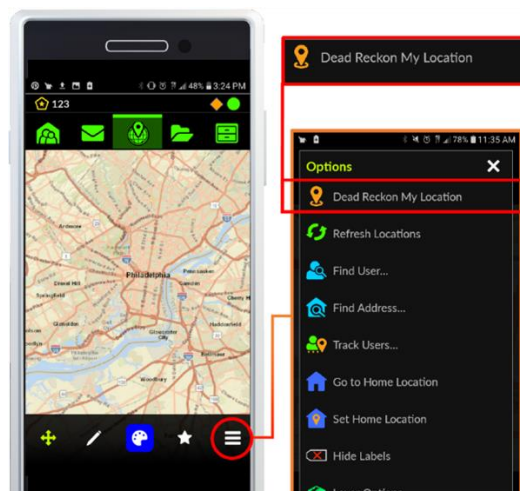


Figure 3-7 DragonForce, Mobile View

Image credit: Drakontas

3.10 Dynamis – COBRA

COBRA software provides a shared situational awareness and common operating picture for emergency managers and incident commanders. COBRA functions for all phases of emergency management: mitigation, preparedness, response, and recovery. The software supports fully integrated NIMS and ICS forms with an IAP module that supports plan generation.



Figure 3-8 COBRA, Desktop View

Image credit: Dynamis

COBRA is designed for collaboration and provides customizable data sharing tools, including shared real-time checklists, workspaces, and emergency plans.

Integrated and customizable mapping allows for real-time display of incident data, including map layers, zones, resource and personnel tracking, and images from the field. The system supports real-time incident notifications, photo sharing, and map annotation and sharing.

Notifications and alerting within the system and via SMS, email, or voice inform responders when workflows have been updated. Street-level views and social media feeds are not currently supported. The system supports multiple reporting capabilities, and all inputs are automatically time-stamped for auditing and after-action reporting. During an event, metrics are automatically built and displayed in the application to aid in management and decision-making.

COBRA is a cloud-based solution delivered as SaaS to provide secure, role-based access from any desktop or mobile device supporting a modern web browser. The setup of a separate backend server is optional. Custom GIS data can be incorporated via individual data layers (e.g., KML, SHP, GeoJSON, GeoTIFF) and OGC web services (WMS, WMTS, WFS, Esri REST).

The initial cost for an individual subscription is \$500 per year, however, the per unit cost decreases as more users are added (e.g., the cost for ten users is \$4,000). The annual software maintenance cost is a flat fee on a schedule based on number of users: for up to five users, the cost is \$2,000, while for 6-10 users, the cost is \$3,000. Software updates are released quarterly and are included in the software maintenance fees. GSA pricing is available. Customer support via phone, email, and online request form is included in the base price. A 30-minute virtual training is also included, and on-site training is available for an additional fee.

3.11 Esri – ArcGIS Software Solutions

ArcGIS by Esri is a comprehensive mapping and geospatial analytics platform used in many application areas. The ArcGIS software suite spans from enterprise server solutions to desktop and mobile geospatial applications to cloud-based services and operations dashboards. The software is highly customizable, with numerous freely available templates available. Many municipalities, counties, and states already run ArcGIS, and therefore provide an existing software base and knowledgeable users and developers. Some of the relevant Esri solutions for emergency response applications are included below:

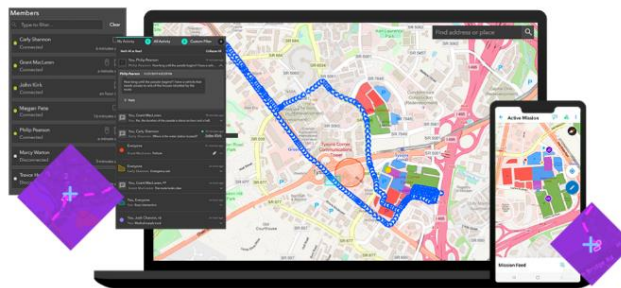


Figure 3-9 ArcGIS Mission, Desktop and Mobile Views

Image credit: Esri

ArcGIS Mission

ArcGIS Mission is a collection of products that provide tactical situational awareness, collaboration, and mission management. This software is designed for teams of people who are working together on a mission including emergency response, law enforcement, humanitarian aid, disaster relief, or security operations. The software focus is to enable communications and collaboration amongst the personnel in the field including mission assignments, location tracking, chats, whiteboarding, and photo sharing. These features are available for sharing amongst team members in the field as well as for communication back to a command center. ArcGIS Mission has tools for mission management, including pre-incident planning, active and real-time mission monitoring, and logging key mission data (e.g., chats, photos, GPS tracks) that provide an authoritative record for after-action reporting, auditing, and future training opportunities.

ArcGIS Mission has three components: ArcGIS Mission Server, which coordinates and brokers activities amongst users and receive and store data; ArcGIS Mission Manager, which serves as an end-user web-application; and ArcGIS Mission Responder, which is an Android or iOS mobile application for use by field personnel. The software is also designed to work in a network-disconnected environment: it can switch over to a peer-to-peer radio mesh network, so capabilities still function amongst the field team and data continues to be collected. The data is updated once a network/data connection is restored.

ArcGIS Solutions Apps

The ArcGIS Solutions Apps are part of the Esri Geospatial Cloud/ArcGIS Online and provide a means to quickly deploy focused and highly customizable software solutions using organizational data. While the range of applications varies widely, there are available solutions specific to emergency response, including “[Emergency Management Operations](#)” [11], “Fire Incident Dashboard,” “Fire Service Maps,” and “Special Event Operations.” The configuration and customization of ArcGIS Solutions Apps can be tailored to individual organizations without programming knowledge. The ArcGIS Solutions Apps support pre-incident planning, templates for special events and can bring multiple data feeds (e.g., CAD, real-time weather, social media, assets, personnel, records management) together in a common environment.



The Solutions Apps function as SaaS and can be accessed through any modern web-browser and are thus available on any mobile or desktop device. The system utilizes Esri's built-in cloud-services (i.e., ArcGIS Online) so, it requires no back-end servers to buy and maintain. The apps, however, do require an active data connection for functionality.

ArcGIS Hub

ArcGIS Hub provides a highly customizable cloud-based platform to share incidents, operations response, situational awareness, and damage assessments in a combined geospatial and data dashboard. Customized configurations can be created without programming, including the option of leveraging existing templates. Numerous data feeds can be configured to include GIS data, real-time weather, social media feeds, assets and personnel tracking, and others. Hub also features a multi-agency collaboration capability that can rapidly scale-up using organization- or user- specific permissions. This capability enables contributing, editing, and sharing of data as well as tools in order to provide an effective common operating picture. Organizations can also use the collaboration capability without Esri technology using only a web browser.

ArcGIS Hub allows linkage to the expansive Esri data repositories to aid in situational awareness. In addition, the commonly used Survey 1-2-3 application can deliver data to ArcGIS Hub repositories allowing for real-time field data entry from mobile devices by incident response personnel or the public.

ArcGIS Hub functions as SaaS and can be accessed through any up to date web-browser. The system utilizes Esri built-in cloud-services (i.e., ArcGIS Online).

ESRI provides GSA pricing. Many training options are available via online tutorials and training is available from ESRI and licensed vendors. One year of standard support is provided with a software license purchase and includes web chat, web request forms and phone support along with access to online resources. Priority and premium levels of support are also available.

3.12 Everbridge – Critical Event Management

The Critical Event Management (CEM) platform is designed to integrate and assess threat data, locate people at risk, and automatically initiate response activities such as identifying responders who can assist. The platform automates the execution of pre-defined communications processes. It can securely deliver data to many devices and track progress on executing response plans.

CEM provides a common operating picture allowing agencies to coordinate their crisis teams, resources, and response activities to accelerate recovery times and maintain command and control when crises evolve into unanticipated scenarios. This is made possible through key features, including:

- A real-time event dashboard that includes map-based, real-time asset and personnel tracking
- A dynamic task manager that automates task assignments and allows tasks to be added on-the-fly
- A visual display of all open and completed tasks
- Centralized access to all response plans, tasks, and associated documents (e.g., floor plans)
- Secured incident communication – including role-based communication – via chat and smart conferencing to link all the proper response personnel

The platform provides detailed event logging for all tasks and communications and ensures compliance with plans and regulations. The event logging can be used for after-action reporting, auditing, analysis, and future training exercises. The system also features pre-configured and ad hoc situation reports that can be instantly created during the event.

The CEM platform can be used on a desktop and on iOS and Android mobile apps. Custom map layers can be added via KML format and the system integrates live weather data.

Pricing is by annual subscription and is based on the number of users. There is a one-time professional services fee for implementation. Pricing information for CEM is available from Everbridge. GSA pricing is available. Support is available online via knowledge base search, on-demand training and online ticket request.

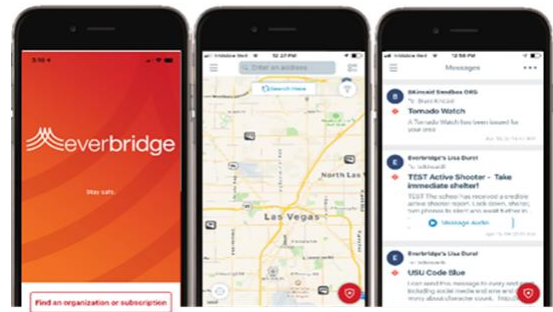


Figure 3-10 Critical Event Management, Mobile Views

Image credit: Everbridge

3.13 FirstDue – FirstDue

FirstDue is a suite of products available for incident planning, response, and reporting. The incident planning functions automate the aggregation of critical information in the geographic response area. The product is designed to bridge between CAD and GIS seamlessly. The mobile response module provides functionality for notification, routing, and current incident status. The map-based system allows access to critical information and can be shared with collaborators on-scene or in the EOC.

The software supports standard IAPs created in FirstDue and makes them immediately available as a special event plan or layer on the incident map. FirstDue can be used for collaborative tactical planning, as plans can be updated and edited in real-time. The software offers personnel and fleet tracking, street-level views, photo and video sharing, a filtered social media feed, live weather, geospatial map markers, annotated map sharing, and data collection from any enrolled device. FirstDue supports real-time incident reporting and notification and creates an event log for after-action reporting.

FirstDue is cloud-based and runs as SaaS on any hardware that supports a web browser. The software continues to operate in the event of interrupted data communications. Administrators can create password-protected, role-based security settings and can manage roles down to specific sub-features. The system is configurable, including customizable reports, symbols, buttons and map layers. Custom map layers can be added in Esri formats or via Esri feature web services. FirstDue's Knowledge Base, a searchable library of instructional articles and short videos, is accessible within the application.

The system is offered as a subscription service. Pricing information is available from FirstDue. FirstDue is in the process of establishing GSA pricing. Maintenance and updates are included in the annual subscription cost. Customer support is included in the subscription cost and available via email, web chat and phone 24 hours per day, seven days per week.



Figure 3-11 FirstDue, Mobile Views

Image credit: FirstDue

3.14 Geopliant – Crisis Track

The Crisis Track system helps agencies plan and manage teams as well as track resources via a map-based interface. Public safety teams can use the Crisis Track mobile app for real-time situational awareness and managing evacuations during an event, as well as managing and identifying resource requirements. The system supports automated FEMA NIMS ICS form generation and IAPs as well as time tracking for cost recovery. The system can streamline situation report creation via auto-population of fields and manages the sharing via email notifications. Crisis Track can assist responders in planning, managing and documenting search and rescue activities and has specific tools for HAZMAT response to provide real-time incident maps and prepare documentation for cost recovery. Crisis Track automatically exchanges real-time disaster information with Esri's ArcGIS Online mapping platform, which can provide for easy integration amongst other entities in an organization allowing GIS staff to quickly add information to their maps and helping planners analyze where support points should be.

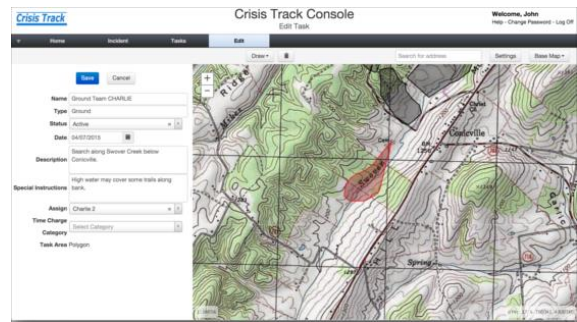


Figure 3-12 Crisis Track, Desktop View

Image credit: Geopliant

Crisis Track secures data on both the mobile device and the servers. Data is stored on the device for only as long as a user is logged in. After a user logs out, the software transfers the data to the server and wipes the data from the device. Crisis Track encrypts all data transfers between the device and the server. Data on the server is protected by a firewall and only accessible through an administrator password. If network/data connectivity is interrupted, Crisis Track saves the information to the device and later uploads the data to servers once connectivity is available.

The Crisis Track mobile application works on any Android, iOS, or Windows 10 device. The web console will run on any desktop or laptop with an internet browser. The mobile application syncs real-time information with the EOC.

Pricing information for Crisis Track subscriptions is available from Geopliant. Support is available via email and phone.

3.15 GeoSafe – GeoSafe

GeoSafe provides CAD integration and GPS tracking for police, fire, and EMS to deliver a common operating picture among multiple agencies. The system supports collaborative planning and response where users can view calls and units from multiple agencies on one unified map. Pre-event plans can be uploaded and delivered via the app. The system provides support for planning, assigning roles and tasking, and coordinating response to planned and no-notice events. The software includes fleet tracking and encrypted data communication for sharing messages, maps, photos, and videos. Agencies can designate users with whom they wish to share their data. A filtered social media feed is also available within the interface. Users can search national, state, and local databases for vehicles, subjects, and articles.



Figure 3-13 GeoSafe, Mobile Views

Image credit: GeoSafe

GeoSafe operates as SaaS and can be installed on devices operating Windows or iOS. A data connection is required for operation.

GeoSafe mobile is available for a flat-rate price with no limits to the number of users per subscription. Pricing information is available by contacting GeoSafe. Training is available via tutorials, videos, or in-person at the user's site. Customer support is available via telephone and email.

3.16 GeoSpatial Technologies – GST Tracker Suite

GST Tracker Suite is a platform that provides solutions for real-time mobile asset tracking, mapping, and CAD integration for first responders and public safety agencies. The GST Tracker Suite includes a web-based AVL server and GST Optima, which supports simultaneous tracking of devices, including vehicle hard-mounted modems, personal tracking devices and registered iOS, Android and Windows smartphones and tablets. The GST Tracker Suite can be accessed through Internet Explorer 11, Microsoft Edge and Google Chrome. A backend server for GST Tracker Suite and the Microsoft SQL Server 2016 are required for agency hosted solutions. The platform can operate without network/data connection.

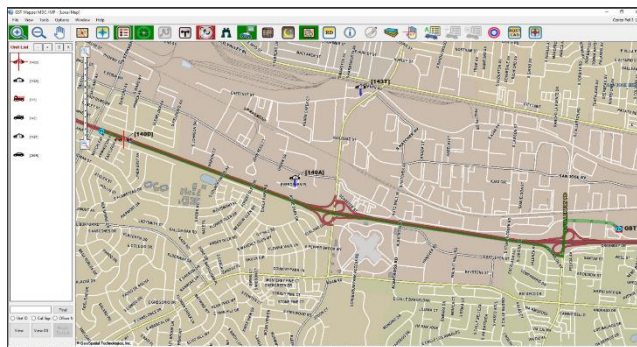


Figure 3-14 GST Tracker Suite, Desktop View

Image credit: GeoSpatial Technologies

GST Tracker Suite can be integrated with other solutions such as GST Mapper, GST Public Safety Suite, location-based services applications, intelligence database systems and crime analysis applications. These solutions provide mobile mapping, integration of CAD and AVL data from multiple vendors, task tracking and the ability to collect, analyze and organize sensitive information for users. Asset locations can be monitored in real-time via client workstation software and iOS and Android tablet applications, allowing dispatchers, EOCs and in-vehicle mobile data computers to share one common operating picture in real-time traffic. The system provides users with an intuitive interface that allows administrators to manage mobile units, groups, and users. GST Optima integrates with GST Tracker servers and database to store historical data.

The system allows two-way sharing of data between authorized users, across mobile devices and with authorized outside entities. GST Tracker Suite is designed for multi-agency regional interoperability by integrating with other AVL systems and displaying data in a single common operating picture. System administrators create user accounts, set user roles and assign user permissions based on user access levels to manage account security. System administrators can allow specified users to access a designated data-sharing site.

For pre-event planning, the system can pre-define GIS data layers for known or reoccurring event areas. Mobile devices, headsets, tablets and vehicles can be preregistered for easy deployment and to create geofence areas before an event. Geofence areas can then be enabled to define event areas and generate activity reports. Functions specific to incident management include one-way and two-way communication between CAD centers and automatic vehicle location servers, displaying incident GPS locations, and displaying GPS locations of mobile units. Users may customize interface buttons, icons, time filters, routing behaviors and asset and group icons. Users may set refreshing rates and AVL updates as needed. GST Tracker Suite collects and stores GPS location, date and time of events for future pre-event planning, after action reporting and audit reporting. Historical information of previous events can be stored and reported in a tabular format, played back onto a map and queried in a text-based or spreadsheet report.

The cost of a Tracker Suite license is available from GeoSpatial Technologies and depends on the type of workstation, back end system, and number of units tracked. GST Optima has an annual subscription cost of \$120 per device tracked. GSA pricing is not available. Ongoing operations, maintenance and training costs for GST Tracker Suite are 20% of the original software license purchase cost per year. Phone and email support are included in the base price. Training is available in person, through instructed web-based training, and through training videos.

3.17 Hangar 14 Solutions – StreetWise CADlink

StreetWise CADlink is a planning and response solution built specifically for fire and EMS. The app can serve as a mobile digital computer by sending information to a records management system (RMS) and by sending and receiving AVL and status with CAD systems.

Communication between a mobile device and an outside authorized entity such as an EOC is two-way: data inbound and REST APIs outbound. Some GIS data layers are automatically updated, some are manual. System administrators can also set user security levels via usernames and passwords, providing varying levels of access to data and configurations.

StreetWise CADlink supports the development of IAPs and on-site pre-incident surveys. It has a planning survey "wizard" that guides a field user through data collection, owner interviews, and photo collection. Data is submitted to a server and a new plan is created in the database. The plan is instantly made available to all field units in the fleet and, if applicable, regional users.

Finished plans can be shared regionally. Regional options through a browser-based web portal give all partners access to plans, data, configurations, reports and analytics. In the event of a loss of data communications, plans can be instantly cached to the device storage to operate offline.

Incident response functions include incident notification, custom and tactical waypoints, resource tracking, unit location, geo-referenced photo sharing, hydrant information, navigation and traffic conditions, and instant messaging.

Features that can be customized by the user include map layers, layer visibility, map display, symbology, measuring tools, navigation routes, data filtering, and data exporting. User actions (e.g., status, command and control point placement, device-to-device messages, geo-referenced photo shares) are all recorded with time and coordinates for after-action and audit reporting; however, routine vehicle location tracking (taken at five-second intervals) is not recorded.

StreetWise CADlink is part of a suite of products that integrate and share data with each other. Optional associated products include a smartphone app for individual responders, station alerting monitors, and a CAD system.

This product is available as a cloud-based SaaS or as a mobile, standalone tablet application (native Android or iOS). The annual cost for a single device (e.g., mobile data terminal) is \$180. GSA pricing is not available. Additional costs include an initial account setup fee that ranges from \$1,500 to \$6,000, annual subscription fees per device, fees for bi-directional data interfaces, and fees for on-site training. Support is bundled in the base price.



Figure 3-15 StreetWise CADlink, Mobile View

Image credit: Hangar 14 Solutions

3.18 Haystax Technology – Constellation

Constellation is a cloud-based, multi-tenant, multi-application platform that processes structured and unstructured data feeds to deliver real-time situational awareness to first responders, providing a common operating picture.

Constellation can receive and display real-time data from in situ sensors (e.g., CBRNE sensors) and weather feeds. It is designed for interoperability and collaboration among multiple teams or agencies. Throughout the planning process, users can add or view comments using a documents annotations feature. In the mobile and desktop versions of the product, users in the EOC and the field can share important incident data, such as map annotations and updated GIS data using a built-in two-way communication feature. Several of the constellation apps, including the Mobile Haystax app, allow for users to generate automated reports.

The Constellation platform leverages a role-based authentication process for managing account security, through which system administrators may identify three types of permissions for each user account: tenant membership, user roles (determines app access and actions), and data groups (organizes users by work type, location, and level of access).

Capabilities for pre-event planning span various apps within Constellation, including:

- **Haystax Assessments** and **Mobile Haystax**, which allow threat and vulnerability assessments on event facilities
- **Haystax Assets**, which offers a tool for cataloging all critical information about buildings, vehicles, people, and systems that are important for an event. This app also includes custom widgets for storing floor plans, site maps, and emergency plans for each facility, plus key contact information and photos
- **Haystax Events**, which captures information on scheduled events and allows users to schedule drills, exercises, and field assessments
- **Haystax Incidents**, which captures information on unplanned events or incidents providing first responders with additional context around critical infrastructure that may be affected during an emergency
- **Threat Streams** and **Map**, which allow for pre-loading of event-specific real-time data feeds and GIS layers

Incident management capabilities are also included across apps within Constellation, including:

- **Haystax Incidents**, which provides a workflow for managing unplanned incidents
- **Field Reports**, which enables first responders to submit geo-tagged field reports from handheld devices to immediately share information with command personnel and other field teams
- **Threat Streams** and **Map**, which display real-time public safety data feeds (e.g., map layers, calls for service, RSS, etc.) alongside critical infrastructure and key resource data. The Threat Streams app also utilizes the RESTful API, which allows third parties to push data (e.g., CAD, AVL, and earthquake warnings) to the platform.

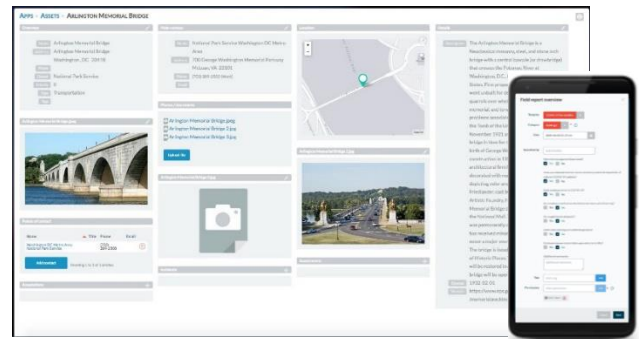


Figure 3-16 Constellation, Desktop and Mobile Views

Image credit: Haystax Technology



Users can customize various functions, such as data (assets, events), access (roles and permissions, data groups), reports (incident and field reports, interviews, assessments), and maps (layers and visibility).

Constellation includes activity and audit logs that capture all changes in the application and user actions, respectively. These logs can be used for training, lessons learned, and security. Activities related to a specific event or incident can be tagged and used to generate a report for after-action reporting and audit purposes. The software can continue to operate in the event of an interrupted network/data connection.

Constellation is available as SaaS and is accessible through a web browser and as mobile device apps on Android and iOS. The Haystax Constellation setup and annual license price are scaled to jurisdiction size, ranging from \$3,000 for a one-time setup plus \$36,000 for a license for a small urban area (population below 2 million); to a \$20,825 fee for set-up with a \$250,000 license for a large state (population above 8 million). GSA pricing is available. Operations and maintenance, upgrades, and customer support are included in the annual fee. Training videos, documentation, and webinars are also included. In-person and on-site training is provided at additional cost. Customer support is offered through email and phone.

3.19 Hexagon – HxGN OnCall Dispatch Suite

The HxGN OnCall Dispatch includes a suite of products that provide police, fire, EMS, and communication agencies with incident management and call-taking capabilities for emergencies and major events. HxGN OnCall Dispatch leverages distributed system design, cloud infrastructure, and the options of geographically separated servers and virtual machines to provide redundant and continuous operation of a CAD database and HxGN application servers. The HxGN OnCall Dispatch Mobile Unit also supports a “disconnected mode,” so that users who lose connectivity can synchronize any changes they have made when they reconnect to the internet. The platform is capable of receiving and displaying real-time data from in situ sensors, such as CBRNE sensors and weather feeds. GIS datasets can also be automatically updated.

HxGN OnCall Dispatch users can choose their own provider for map display and other GIS processes, which allows for advanced map capabilities such as 3D rendering, routing with real-time traffic information, and the ability to add new themes and ad hoc content. HxGN OnCall Dispatch Analytics provides mapping controls which include plotting location-based information, hotspot mapping, dynamic clustering, geofencing/geospatial filtering, and more. Personnel tracking through GPS devices can provide real-time movement on the HxGN OnCall Dispatch map display.

The software is designed for interoperability and collaboration for multiple teams or agencies, with the browser-based version enabling oversight, supervision, and dispatching in the field. System administrators can also set user roles and permissions. The platform conceptualizes management of groups and roles through four categories: users, groups, roles, and permissions (which is further divided into action permissions and data permissions). Account security is managed through a system check of a user’s set of permissions determined by the aforementioned categories.

The HxGN OnCall Dispatch Mobile Unit further enhances role-based workflows and two-way communication between responders in the field and staff in a control room such as an EOC. Using this feature, a responder can monitor operations, receive event and alerts, update incident status, and assign themselves to events. Incident Actions Plans can be developed using HxGN OnCall Dispatch Analytics providing public safety data visualization and analytics software for evidenced-based reporting, analysis, and decision making. HxGN OnCall Dispatch can incorporate standard operating procedures into the workflow process for planned events as part of an IAP. In support of incident management processes, HxGN OnCall Dispatch Analytics provides a single source for organizational data, which users can explore, analyze, and share through interactive reports and dashboards. With this suite, agencies can use data collected to assess performance, better allocate resources, and improve operations. The HxGN OnCall Dispatch suite lets users configure the user interface according to their own needs, roles, and users. The platform allows for integration with other control room technologies, allowing users to interact with them in a single, unified interface. This solution is available as SaaS and on mobile devices as a downloaded app (iOS and Android). OnCall Dispatch consists of a suite of products, each with their own price (see Table 3-2). They are available as perpetual or subscription license. GSA pricing is available. Hexagon provides various customer support and training options for users, but support is not bundled with the base price. Software maintenance costs are given by suite component and are also listed in the table.

Table 3-2 HxGN OnCall Dispatch Pricing Breakdown

HxGN OnCall Dispatch Suite Components	Component MSRP	Software Maintenance Cost
HxGN OnCall Dispatch Advantage	\$13,905	\$255
OnCall Dispatch Advanced Mapping	\$2,575	\$47
OnCall Dispatch Mobile Unit	\$1,288	\$24
HxGN OnCall Dispatch Viewer	\$2,575	\$46
OnCall Dispatch Dashboard	\$1,030	\$20
OnCall Dispatch Analytics	\$51,500	\$9,345

3.20 Incident Response Technologies – Rhodium Incident Management

Rhodium Incident Management (Rhodium) is a command and control solution for consolidating information, coordinating assets, and acting on incidents ranging from routine to large scale, multi-agency responses.

Users collaboratively access Rhodium in real-time. Multiple users can edit or view features, including mapping, map tools, checklists, resources, and document storage for both planning and deployment stages. The software supports collaborative planning through concurrent, multi-user access allowing users to build an IAP using FEMA ICS forms. Plans can also be created from active incidents for later use. Once IAP's are created, they may be distributed through email, online portal, QR code, or print. IAP's may also be password protected to limit access to relevant stakeholders.

There are four user levels in Rhodium: administrators; users with full edit permissions; users that may view but not edit the information; and a tracking-only level of users who may neither view nor edit information but are GPS-tracked using the native app. Account security is managed through the use of strong passwords, multifactor authentication, login attempt auditing and notification, logging user actions, and encryption of sensitive data.

Most data fields in Rhodium can be customized by the user. Users can create and add unlimited map layers, control visibility, and set symbols (icons). The map uses a palette-based system and a user-configurable interface. Users can also upload their own external data for storage.

All actions in Rhodium are time, date, and location stamped, allowing for a log of all actions taken. The event log can be sorted dynamically or exported as a CSV file for auditing and after-action reporting.

Rhodium is a SaaS-based application that runs on updated browsers including Google Chrome (current version), Microsoft Edge (chromium-based/current version), Mobile Safari (iPad), and Firefox (current version). It also runs on desktops or mobile devices. The cost for a single user license is \$630; a package of 10 user licenses is available for \$4,300. GSA pricing is not available. All licensing, maintenance and upgrade costs are included in the annual subscription fee. Customer support is included in the base price. All users receive full access to all support resources regardless of account size: support includes phone, email, and webchat. Users can also create and submit support cases through the web-based Rhodium support center.



Figure 3-17 Rhodium Incident Management, Desktop and Mobile Views

Image credit: Incident Response Technologies

3.21 Intterra – Incident Management

Intterra Incident Management is a real-time tactical map to support information sharing between incident commanders, response units, dispatch centers, and EOCs. The system includes planning tools like templates for structure fires, active shooter scenarios, wildfires, and special events. IAPs can be loaded directly into the system and shared with any authorized agency, allowing administrators to make plans visible across all authorized users.

The Incident Management system provides personnel and resource tracking, role and task assignments, and allows the creation of detailed incident maps that can be edited in real time from the EOC or the field. The system integrates with multiple CAD systems and supports in-field incident creation, map modification, map annotation, and sharing marked-up maps and photos. Street-level imagery and live weather feeds are accessible within the interface. Full historical records are securely stored in the cloud.

The software operates as SaaS that can be accessed via any updated browser and on any desktop or mobile device. Direct installations are available for Android and iOS mobile devices. The system continues to operate if network communications are interrupted, then automatically updates when back online.

The pricing for Incident Management licenses varies by deployment requirements and is available from Intterra. GSA pricing is available. Users have access to online tutorial documents and support is available via online ticket request.

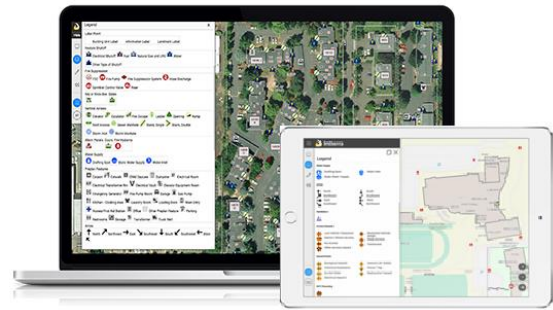


Figure 3-18 Incident Management, Desktop and Mobile Views

Image credit: Intterra

3.22 Intrepid Networks – Intrepid Response

Intrepid Response is a platform that enables communication, collaboration, and coordination to provide situational awareness for both field and command users. Intrepid Response is capable of receiving and displaying real-time data from in situ sensors, such as CBRNE sensors or wearables. GIS datasets can be automatically updated via a REST based API. Currently, Intrepid Response has a REST/JSON based API for ingesting and exporting GIS data. As of this report, Intrepid Networks states they are currently integrating with Esri ArcGIS and GeoEvent server for further GIS enhancements.

Intrepid Response provides system administrators with various levels of access and management of data within the system. There are three main permission levels: organization administrator, supervisor, and operator. Information flow is controlled by establishing communication channels that allow users to share information with a specific group and/or permission level. Channel owners and managers must be a Supervisor level or higher, while Operators are provided with view-only permissions for groups and data. Account security is managed through implementation of the OAuth 2.0 authorization protocol for credentialing within the platform. Intrepid Response is designed for interoperability and collaboration for multiple teams or agencies. The mobile and web versions of the platform provide two-way sharing of customized content to and from mobile devices and outside entities, including through the REST-based API. The “Connect” module is a collaboration tool within the Response platform, which provides capabilities for secure messaging, collaborative whiteboarding, digital content sharing, and dynamic task management. The “Locate” module, which focuses on mapping, provides capabilities for adding markers, shapes and URLs to the map within a communication channel.

Intrepid Response’s “Connect” module also provides functions that support planning for future incidents, such as the ability to pre-place icons, shapes, and other information and to share documentation, such as IAPs, with other users in a specified channel. The platform also includes functions that support implementation of ICS, such as personnel accountability and resource requests, and communication of incident management decisions and documentation. While Intrepid Response does not currently allow auto-generation of an IAP, Intrepid states that report generation and event logging features are on their short-term development roadmap. Many of Intrepid Response’s map visualization features have customization options, such as turning GPS on or off, changing channels, choosing satellite or street maps (using Google Maps), and turning traffic layers on or off. Map markers and user icons can also be manipulated by the user, such as adding URLs to the former and viewing a user callsign for the latter. Intrepid Response is available as SaaS and as a downloadable app on mobile devices (iOS and Android). Hardware requirements only apply for the use of the mobile app (Android 5.1+ and iOS 12+, at time of this report) and for the optional on-premises server configuration. There is no hardware requirement for the SaaS web-browser end-user. An internet connection is required for the devices to communicate with the server, and the server to the devices.

The cost for Intrepid Response licenses is \$13 a month per user. GSA pricing is available. Ongoing upgrades, operations and maintenance, and 24-hour support via phone and email are included in the SaaS license fee. Intrepid provides a variety of training options, including in-person training at the vendor or customer location, training videos, and both embedded and online tutorial documents.

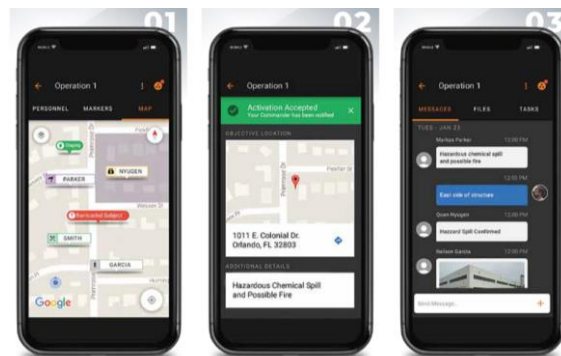


Figure 3-19 Intrepid Response, Mobile Views

Image credit: Intrepid Networks

3.23 Juvare LLC – WebEOC Pro

WebEOC Pro is a configurable, web-based information platform for managing daily operations and emergencies. WebEOC allows administrators to create web forms for collecting data, which can then be integrated into dashboards and displayed as charts, graphs, arithmetic summaries, and maps.

WebEOC is capable of receiving and displaying real-time data from in situ sensors, such as CBRNE sensors, and live weather feeds.

The platform can also receive and display modeled data to meet forecasting and simulation needs.

GIS datasets can be automatically updated, and WebEOC has a bi-directional integration capability with ArcGIS Portal and ArcGIS Online.

The software is designed for interoperability and collaboration for multiple teams or agencies. System administrators can set user roles and permissions and use various security options for managing credentialing, including specific password policies, PIV/CAC cards, Single-Sign On (SSO), and multifactor logins.

WebEOC incorporates a wide range of pre-event planning, training, and evaluation tools, including an exercise simulator tool, automatic data population of an incident action plan, and hazard and vulnerability assessments. There is also an IAP module, which allows for templated IAPs to be created from scratch or based on past events to reduce redundant information entry. Multiple users can collaborate on a single IAP simultaneously. Many WebEOC workflows are configurable. Examples include battle rhythms, event reporting, mission/tasking, inventory management, facility status, IAPs, situation reports, press releases, mapping, and after-action reports. Since WebEOC provides the ability to exchange workflows between clients via a web link, “thousands” of workflows are available from the user community. Users can customize many of WebEOC’s functions, including reports, data storage, map layers, layer opacity and visibility, symbology, buttons, scalebar/units, and dashboards, depending on user permissions.

This commercial off-the-shelf solution is available as SaaS and on mobile devices (iOS and Android) as a downloadable app. There are no specific hardware requirements for the end-user, unless the customer opts for on-premise configurations (i.e., self-hosted). In the event of a loss of network/data connection, WebEOC’s mobile app can still collect data while offline, then synchronizes once connectivity is restored.

WebEOC is sold in bundles of 250 users and GSA pricing is available. Contact the vendor for pricing information. On GSA Advantage, the cost for a three-year subscription for 250 users ranges from approximately \$70,000 to \$120,000. Maintenance costs, including upgrades and patches, are associated only with licenses hosted on the user’s premises. Customer support is available by phone, email, dashboard tutoring, and live help embedded in the platform itself. Training options are available through in-person or on-site instruction, videos, tutorial documents, and an annual conference. Support services are bundled with the base price.

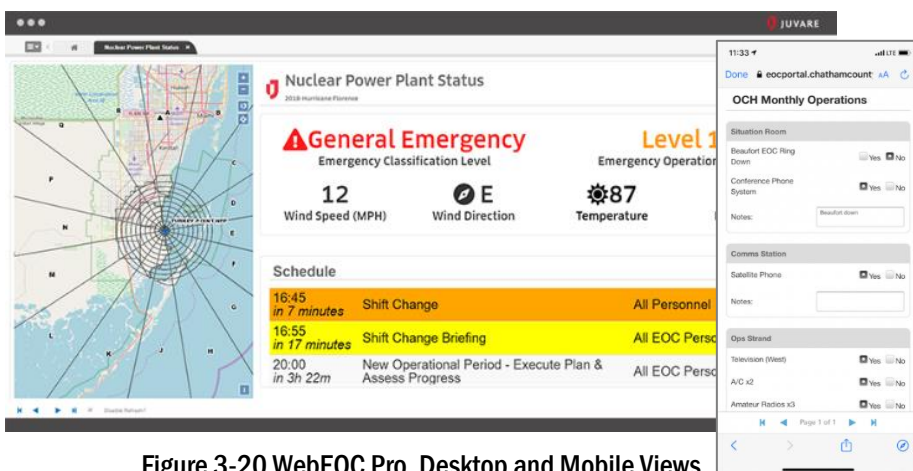


Figure 3-20 WebEOC Pro, Desktop and Mobile Views

Image credit: Juvare LLC

3.24 Mission Manager – Mission Manager

Mission Manager is designed as a flexible, customizable system to assist incident commanders in managing daily team operations and missions. The software includes 20 pre-set mission types that bring relevant information together into one place; users can also customize their own mission sets.

Mission Manager facilitates the tracking of all phases of an event in real time, including vehicle and personnel locations, event logs, and assignment status, thus providing a common operational picture through a map-based interface. The mapping technology features real-time views with more than 100 overlays; time-series GPS tracks for specific individuals on the team; and real-time point, line, or polygon placement to provide real-time identification of features, incident notification, or section areas that can then be assigned to teams.

The software features tools to auto populate FEMA ICS forms and after-action reporting using event logs, mission briefings, radio logs, and real-time text, voice, or email messaging. The system automates the reporting process, including tracking member's hours, producing inventory and after-action reports, and supporting real-time incident notification with photo and map annotation and sharing. Forms population and reporting also use web-based calendars for tasking and time tracking of individuals and tasks. The flexibility of the software lends itself to use for day-to-day tasks in a team-based environment as well as an online command center during incidents.

Mission Manager supports document management for planning and response, including operating plans, procedure manuals, policies, training materials, equipment operating manuals, equipment and vehicle maintenance records, and personnel certifications and their expirations. The software also features role-based access, from administrative full control to view-only access.

Mission Manager is delivered as SaaS and can run in web browsers on both desktop and mobile devices. It features a secure database that ensures that all data is confidential and securely retained. The system can continue to operate during data communication interruptions, syncing once it is back online.

Pricing information is available from the vendor. Mission Manager offers a First Responder Grant to qualified 501(c)(3), all-volunteer, non-federally funded organizations that helps cover the annual license fee. Mission manager support is available via phone and email requests.

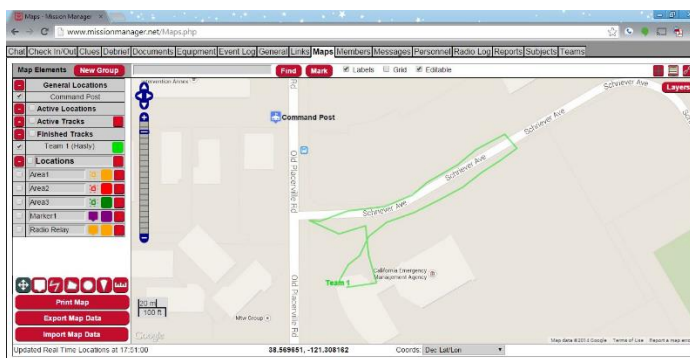


Figure 3-21 Mission Manager, Desktop View

Image credit: Mission Manager

3.25 Motorola Solutions – Command Center

The Command Center platform is a cloud-based interface that integrates with public safety software to manage all stages of emergency response. The consolidated interface provides tools for incident management and post-incident resolution.

Information obtained from Esri-based maps, live video feeds, cameras and sensors can be integrated into a single interface to track fleets, resources and personnel. The platform allows interoperability between agencies, systems and databases. Users can control viewing permissions for all data shared and stored within the platform, as well as control all software updates. Command Center allows two-way communication between dispatchers and field responders, facilitating sending and receiving alerts and status updates. Command Center can automatically report event escalation by integrating data from sensor feeds to detect pierced vests and fired weapons.

Command Center can be accessed from any browser on a computer, tablet or smartphone with internet connection. The product also provides access to CommandCentral Vault, a cloud-based solution for organizing and storing all digital evidence, incident activities, field reports and 911 transcripts.

Information on pricing is available from Motorola Solutions.



Figure 3-22 Command Center, Mobile and Desktop Views

Image credit: Motorola Solutions

3.26 Mutualink – Edge Interoperable Workstation

The Edge Interoperable Workstation (IWS) is an incident-based interface used to communicate with personnel and units for emergency response. The platform can integrate feeds from in situ sensors, social media and weather. The system receives GIS from Google Maps, global weather information, video from street cameras, automatic identification systems (AIS), vector/raster floorplans and KML and KMZ files. Geographic information system datasets can be automatically updated. Functions specific to incident management include text messaging, audio, video and data sharing, asset and personnel tracking and real-time incident reporting. IWS has a critical information dashboard. The system can track up to eight incidents simultaneously and color code active incidents for quick visual recognition. The system creates an event log for all activities within an incident to support document development and after-action reviews and reports.

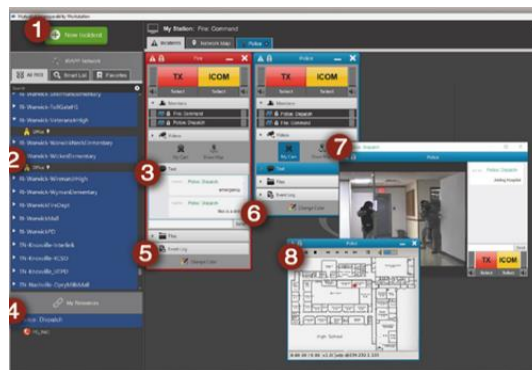


Figure 3-23 Edge Interoperable Workstation, Desktop View

Image credit: Mutualink

The platform's Interoperable Response and Preparedness Platform (IPAA) network is built around community collaborative planning for multiple teams or agencies and supports secure two-way sharing of data. Account security is managed through AES 256 and FIPS 140-2 information security standards. [12] [13] The system also provides a viewer-only capability that can be shared with non-licensed users. The system's AWS web version allows guest links to be shared for incident needs. IWS is designed to operate when a network connection is unavailable.

The entire platform provides the user with the ability to customize based on needs. A few examples include customization of map and weather layers toolbars, and asset and personnel tracking. The platform can also integrate third party applications such as ShotSpotter, LiveEarth and other audio interoperability platforms.

IWS is available as SaaS or via Windows PC and MacOS installations. It also supports planning and incident management on desktop and mobile devices. IWS, part of a suite of products for first responders, can be used as a stand-alone mini console, integrated with an existing console position, or downloaded on Windows, OS X iOS or Android devices. The workstation can be accessed through Google Chrome.

The cost for each console varies based on the specifications that users request. The cost for a single user running the IWS Web platform is \$119 per month. GSA pricing is available. Ongoing operations and maintenance costs are covered by the FEMA National Continuity Program to support government clients. IWS offers phone, email and web chat support bundled in the base price. Users may also find live help embedded in the software as well as receive training through training videos, tutorial documents, and in-person training events.

3.27 nFocus Solutions – GeoSuite

GeoSuite is a web-based multimedia tool that provides real-time situational awareness and the ability to easily share information between teams and agencies. GeoSuite's real-time server-based system provides a common operating picture that can integrate data from various sources to enable collaboration. The tool can collect and process data from mobile field users, CAD, internal staff, other agencies, and real-time sensors to provide a GIS map overlaid with all event data in real-time.

Functions specific to incident management include real-time tracking of mobile users, flash messaging, integration of real-time sensor feeds and real-time collaboration. GeoSuite provides secure two-way sharing of personnel; fleet and asset tracking; photos and videos; sensor, social media and weather feeds; maps and map annotations; encrypted data transmissions as well as CAD communications and real-time incident reports. Account security is managed by setting roles and permissions, and data can be filtered and exported according to mission requirements. System administrators can grant users full or read-only privileges, as well as grant specific user's privileges to delete data, to add new users, or to export specific data. Administrators can also grant users access to mobile, web service or link analysis tools.

Capabilities for pre-event planning include pre-configured searches for boundaries and zones; tactical overlay setups for operational execution guidelines; and map layers and drawing tools for planned routes, medical facilities, law enforcement, fire stations, transportation and logistics hubs.

GeoSuite supports the ability to develop a standard IAP that a user or administrator can upload into the system. The IAP can also be customized to FEMA report formats. All incident staff can use the developed IAP to populate data and store all events, activities and actions as well as to export to external systems. The software collects and stores flash messages, all changes made by all users, all main event data and GPS locations of all mobile users. Historical information can be used for reporting at the local, regional and federal level, for briefings, and to export and auto-populate required state and FEMA ICS forms. GeoSuite provides users with the ability to customize reports, Google KML displays, maps, drawings, pictures and icons. Users can create custom searches and set the frequency of updates. Before deployment, symbols can be tailored to any user requirements.

GeoSuite is available as SaaS that can be hosted on a cloud, on field servers or on fixed or mobile operation centers and mobile devices. GeoSuite can be accessed through Google Chrome, Mozilla Firefox and Microsoft Edge. This product has the ability to cache all data on a device when a network connection is unavailable. In a field environment, the system can run on a 1GB local area network (LAN) and in a cloud, T1 access is recommended.

The cost for an individual user's GeoSuite license is \$75 per month or \$700 annually. All annual licenses include support, maintenance and upgrades. For all other licenses, pricing can be customized to include agency level support based on the number of users, needs, requirements and configurations. GSA pricing is not available. Limited support is available on call 24 hours per day, seven days a week; during crises or events, deployed support is also available. In person training is available at an additional cost.



Figure 3-24 GeoSuite, Desktop View

Image credit: nFocus Solutions

3.28 Noggin IT – Noggin 2.0

Noggin is designed to automate continuity and emergency management program needs, crisis management tasks, and training and exercise requirements to help organizations better prepare for, and respond to, unexpected events. The platform is built to support incident command and management systems such as the NIMS ICS structure, but also provides the ability for organizations to apply their own systems and processes.

Noggin includes a best practice template for producing IAPs. The standard IAP can be assigned to a designee with a due date and reminder. IAPs can be produced in collaboration with others, as sub-plans can be produced by several users including details on situation, mission, execution, administration, and command and control. The system has a guided process where automated workflows can control the communication, approval mechanism, and delivery of approvals.

Noggin can be customized to integrate with existing CAD systems and supports real-time incident reporting, assignment of roles and tasks, personnel and fleet tracking, photo and map sharing and annotation and encrypted communication. The system allows users to receive, and respond to, push notifications as well as trigger notifications and associated workflows. After action reporting is supported.

The Noggin platform is offered as SaaS and operates on any hardware that supports a web browser or as a locally installed mobile app for iOS and Android. Full functionality requires an internet connection, though the system will continue to function during network interruptions when connectivity is marginal or sporadic. Limited off-line support is currently provided for tasks such as filling forms. Expanded support is in place for creating incidents or conducting assessments. The Noggin platform is integrated with Esri's ArcGIS for imagery or street basemaps.⁶ User GIS layers can be added from external sources, using ArcGIS, KML, GeoJSON or WMS formats. Noggin supports the integration of web maps via Esri and OGC standards.

Noggin offers subscriptions for five, 25, 50, 100, 250, 500 users and more; the per seat license cost declines with volume. A single year subscription for five users is \$5,940 and a single year subscription for 20 users is \$11,760. Support is available via online portal, email, and phone.

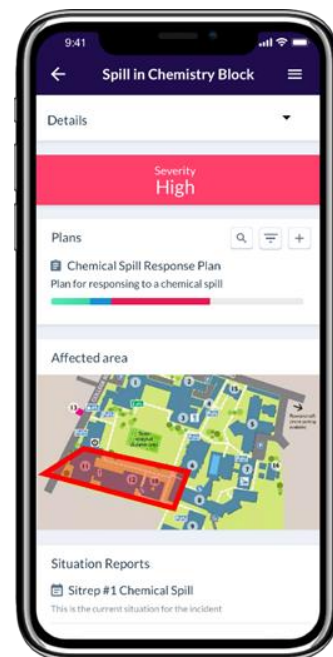


Figure 3-25 Noggin, Mobile View

Image credit: Noggin IT

⁶ Esri's ArcGIS website explains this term saying: "Basemaps serve as a foundational layer in applications. [They] provide realistic depictions of the earth at multiple scales and use authoritative data as reference sources." [15]

3.29 Priority 5 Holdings – Touch Assisted Command and Control (TACCS)

The Touch Assisted Command and Control System (TACCS) provides a real-time common operating picture that can aggregate data from external and internal sources, enhancing incident situational awareness.

TACCS can be connected to any standard compliant GIS backend and supports common raster and vector formats. Critical information, such as sensor data, weather feeds, and plume modeling/simulation data are supported. TACCS allows for these data feeds and other assets to be connected to the specific missions or resource lifelines they impact, correlating to FEMA's "Lifelines" concept. Data and the status of operational assets are summarized in the TACCS Executive Dashboard to provide users a common operating picture.

TACCS includes a notification feature, which can provide automated or manual notification to individuals and groups both within and outside of the primary organization. These notifications use voice, text, and email, and can take advantage of provided templates or just-in-time content to speed up the time it takes to distribute the notification. There is also an automated alert feature which identifies patterns in data that might indicate a condition of interest.

TACCS includes an event planning framework and role-based access controls which together enable interoperable, collaborative incident and pre-event planning within and across organizations, jurisdictions, and locations. Using the web-browser version of TACCS, for example, a user can access the event file; review, create, and share tactical map layers; use chat functions; and check personnel status. System administrators can designate user roles, permissions, and tool and data access. Data in TACCS is encrypted and access is controlled with password-protected user accounts, which can also be configured to accept single sign-on.

TACCS supports development of standard IAPs and other basic Incident Command System workflows through features that include ICS charts, establishing time-based tactical response plans, task and resource management, and access control. All actions are logged and multiple events can be combined to create a single event file, allowing multiple incidents to be managed. A playback capability enables real-time analysis and review during and after operations or to support trainings and exercises.

TACCS is available as SaaS and on mobile (Android, iOS) devices. An on-premises hosting option that entails back-end server hardware requirements is also available. The TACCS software is capable of accommodating unreliable networks, maintaining functionality despite network disruptions.

There is no single-user license available: the cost for 10 users is \$48,000 a year. GSA pricing is available. Operations, maintenance, and support is included in the annual license fee, except for those costs associated with hosting the software. There are several options for hosting: the customer can select a hosting service, manage their own private cloud service, or select Priority 5's bundled price service that includes hosting on Amazon Web Services or equivalent. Product training is available through in-person sessions at the vendor's location, on-site sessions at the customer's location, videos, and tutorial documentation. Customer support is available through phone, email, and webchat.

3.30 StratoTask – VANTAGE

VANTAGE is a pre-incident planning and survey tool designed for first responders and security forces. Planning functions include creating pre-event surveys, progress tracking, a review stage, and allowing dispatch to attach completed surveys to locations. (This can also be done by direct integration.) A dashboard shows the full workflow and statuses. Support data includes geo-indexed and 3D maps of the area, key feature points, key risk areas, exposures, all geographic and structural features of interest, contact data, and access to hazardous material information from the US Department of Transportation’s Emergency Response Guidebook.

Plan information is accessible via a variety of methods including web, images, and PDF formats. Incident plans are delivered directly to responding units via mobile data terminals, email, or text, and become part of the reference material used while managing an incident. Users with access to the plan can update simultaneously it in real-time.

VANTAGE users can hide or show buttons, controls, layers, and other features as well as customize display options. All actions are logged by timestamp and user, however, GPS location of users is not recorded.

System administrators can set user roles in VANTAGE. Key roles include “survey data collectors” who collect data about field locations, “dispatchers” who can attach surveys to locations in a dispatch system (if this function is done manually; direct API is another option), “coordinators” who assign and review surveys for quality, and “senior officers” who monitor activities and view statistics. Security is based on role assignment to user accounts. To share information with non-licensed users or another agency, VANTAGE can issue a unique bearer link that allows the recipient to view information. Surveys can also be directly transmitted in pdf format to other entities.

VANTAGE is available as a subscription-based SaaS that runs on most up to date browsers (within the past 2 years) except Internet Explorer. Hardware requirements are minimal: the software will run on post-2015 tablets or desktops and requires almost no storage. The amount of bandwidth required is similar to that used when browsing Google Maps. VANTAGE can operate offline for short periods of time without network access by caching the current survey locally.

VANTAGE costs \$2000 annually per fire station (i.e., pricing is not per user) and GSA pricing is available. There are no ongoing maintenance costs for the software. Technical support costs \$250 per call with the first two calls per year free. The vendor states that the need for technical support calls is rare (i.e., generally less than one call per year per organization).



Figure 3-26 VANTAGE, Mobile Views

Image credit: StratoTask

3.31 STRAX Intelligence Group – STRAX Platform

The STRAX platform provides a common operating picture for collaboration and real-time response by integrating alerts, communication tools, video and other data feeds, and responder location in a map-based interface. It is a cloud-based platform that operates on a web-browser or desktop application. STRAX is equipment agnostic and can be connected to any Internet Protocol (IP) capable equipment.

The STRAX platform integrates information from databases, sensors, and devices into a single common operating platform for user review, sharing, and decision-making. For incident planning, the user can prepopulate annotations and key items to location-specific plans. Using STRAX Intelligence Group's proprietary Intelligent Event Response (IER) technology, users can set workflows based on data and analytics, which trigger customizable alerts. Real-time analytics can be applied to live video feeds to provide vehicle identification and other tactical information. Information can be shared immediately within and across agencies, both remote and on-scene. Incidents can be reviewed after-action including video streams playback, annotations, and chat logs.

The STRAX platform has an open architecture and can be integrated with many public safety systems. Current integrations with the STRAX platform include:

- Computer aided dispatch
- Gunshot detection
- Mobile panic button or campus safety apps
- Video management systems
- Vehicle identification video analytics (identifies vehicle make, model, color, and license plate number and state).
- Automatic license plate readers

Customer support is available 24 hours per day, seven days a week. Pricing information is available through the vendor.



Figure 3-27 STRAX Platform, Desktop and Mobile Views

Image credit: STRAX Intelligence Group

3.32 Tablet Command – Tablet Command

Tablet Command is incident command and response software for increasing situational awareness and improving responder accountability. The software is available at varying levels of functionality from single user to enterprise and mobile incident response platforms. Tablet Command supports detailed planning and incident management on both desktop and mobile iOS devices. The platform has an Esri-based map engine for map-based functionality that remains operational with or without network/data connectivity.

The software allows an account administrator to standardize configuration across an organization as well as to standardize department operations via checklists, resources, and assignments to match department requirements. Updated resource configurations are shared instantly among all department devices.

Tablet Command supports the management of incidents in two views: 1) a Digital Tactical Worksheet where tasks, divisions, groups, sectors or branches are deployed using a drag and drop user interface; and 2) the Units View, a map view that allows resources to be managed geospatially. Changes to either view are reflected in the other, and all authenticated users can view incident management activities on their devices. User roles, tasks, and assignments can be pushed out via the interface. The system supports integration with existing CAD, real-time incident reporting, fleet and asset tracking, encrypted communication, and map and photo sharing. Map views can be customized with users' GIS data in Esri-compatible file formats. The software does not support connections to OGC standard web services. Tablet Command does not support the generation of IAPs. Tablet Command creates an incident activity record that can be exported by users and retrieved by administrators for after-action reporting.

The Tablet Command system is delivered as SaaS and requires a local server instance. In the case of communication loss, the system continues to operate, then, when connectivity is restored, all local data is synced to the cloud and made available to other authenticated users.

The cost for an individual user's Tablet Command subscription is \$675 per year. GSA pricing is not available. Customer support is included in the subscription and available via email, phone and web chat. Online learning materials and tutorial documents are available within the interface.



Figure 3-28 Tablet Command, Mobile View

Image credit: Tablet Command

3.33 Team Awareness Kit – Team Awareness Kit (TAK)

The Team Awareness Kit (TAK) is originally sourced from a software development effort by the Air Force Research Laboratory, referred to as the Android Team Awareness Kit (ATAK). TAK provides a geospatial solution for real-time collaboration and situational awareness between an emergency operations center and responders from varying organizations. The software interface is designed to be intuitive. Real-time mobile capabilities of this product include mapping and navigation, personnel tracking, peer-to-peer video/text chats, image

sharing, file sharing, site surveys, drone feeds, sensor feeds, terrain analysis, and augmented reality. TAK software is useful for both planned and unplanned incidents and is often used for search and rescue and damage assessment operations.

The software can connect to real-time data over a variety of data communications links such as a TAK server, KML Network Link, or OGC standard Web Map Tile Services (WMTS). These real-time data are cached locally on the device, thus, in the event that data communications go offline, the software can continue to be used. TAK can also load data from a local device. Data communications within TAK function over the native devices' communications (e.g., cellular, Wi-Fi) or by leveraging software plug-ins, external data communications from SATCOM and MANET; even analog and voice radios can be used. Customized tools and capabilities can be added through the use of a software development kit and plug-in architecture. Multiple free and commercial plug-ins are available.

TAK operates over different hardware and software clients including Android devices (ATAK), iOS devices (iTAK), Windows desktops and laptops (WinTAK) and over any modern web browser (WebTAK). These clients interface with a dedicated TAK Server that can enforce required security for sensitive data.

The TAK software is free for government and public safety use and runs on the agencies' existing hardware. There is a general requirement for an experienced IT person to install and configure the server software, particularly in handling network firewalls. It is possible, nevertheless, to use the software in a serverless environment. In that case, commercial providers can setup and operate a server for an organization; alternatively, for qualifying organizations, the FBI provides TAK server access through its existing [Law Enforcement Enterprise Portal \(LEEP\) program](#). [14]

Because the software is open-source, there are a number of versions available: ATAK-CIV is the official TAK application for civilian use. There are costs associated with hardware and server setup, though commercial vendors can aid in server hosting. Numerous free training videos and user-guides are available in addition to a user-community and an annual OpenTAK Conference.



Figure 3-29 Team Awareness Kit, Mobile View

Image credit: Team Awareness Kit

3.34 The Response Group – Incident Action Plan (IAP)

Incident Action Plan (IAP) is a software package used for planning and managing all aspects of an incident response from personnel and equipment to finances and logistics. It is part of a suite of tools with capabilities for situational awareness, a common operating picture and resource tracking. IAP is a system of forms and reports that provide command officials with data through the duration of an incident. When integrated with the Common Operating Picture tool, IAP software can overlay real-time information on a map to enhance situational awareness for an event. Users can customize map layers by adjusting the scale and visibility and by labeling properties, as well as customizing which widgets display per incident.

Users can preload information for planned and unplanned events. They can create and manage incident templates that consist of multiple NIMS ICS forms or documents pre-loaded with data. When creating a new incident, the user can select a preloaded incident template which will import the associated preloaded ICS forms and documents. The user can then update each preloaded form with additional information specific to the incident.

From an initial incident notification, the software supports the development of a detailed incident action plan. Information needs to be entered only once, then the software integrates that information on to other forms. Embedded flowcharts show how information will map to other forms. Forms can be populated with information for tactical response field assignments. Users can build and manage documentation during initial response and long-term events. They can also use incident templates to access key information from emergency response plans, create custom checklists for response actions, build a situation map, and take photos from the field. An Incident and Crisis Management Team can work through the ICS process using software features such as integrated situational status boards, dashboards, collaboration through broadcast messaging, and resource tracking. The ICS planning process is interactive including meeting management, roles and responsibilities, and completely integrated checklists.


All ICS forms and documents can be created, modified, saved and printed by users with appropriate account permissions. Using user-selected versions of forms, the software can create a PDF-version of an IAP and reports complete with a table of contents and bookmarks without the need for an external PDF-writer. All forms and reports can be worked on simultaneously for collaboration; revision history is maintained and logged. Users may customize the design of reports, forms, or other documents as the need arises for each incident.

Software system administrators can customize user roles to fit the needs of their specific unit or organization. They can create and manage security roles, providing “edit,” “read-only,” or “no access” restrictions to each module in the software based on the user’s ICS position or by specific incident type (e.g., exercise, training, and for actual incidents).



Figure 3-30 Incident Action Plan, Mobile App

Image credit: The Response Group



IAP can be accessed as SaaS. The software front end is HTML5 and operates on any web browser, however, Internet Explorer is not recommended. IAP Software is supported by multiple mobile applications. These include:

- IAP Mobile App
- Initial Response Mobile App
- Resource Request Mobile App
- Resource Manager Mobile App
- Information Management Mobile App
- eIMH Mobile App
- Exercise eVal Mobile App

A subscription to IAP Software is required for full functionality. No plug-ins are required. In the event of the loss of data communications, some offline capabilities are available on supported mobile applications. For example, some forms may be completed offline and imported back to the IAP software when a connection is restored.

IAP software costs \$2,900 per year for 10 users; GSA pricing is available. Software updates are included in the annual SaaS subscription. Customer support is included in the base price and available 24 hours per day, seven days a week. All supplemental development and services are priced according to a service rate schedule.

3.35 Tyler Technologies – New World Public Safety Platform

The New World Public Safety platform provides first responders with the ability to integrate cloud-based tools from the New World suite for collaboration and real-time response. The integrated platform can be used on tablets, laptops, smartphones and watches to support fleet and personnel tracking, real-time data sharing, field reporting and routing information.

For pre-incident planning, users can use the New World Fire Solution to review building floorplans and virtually navigate through property as well as to track hydrants and hazardous materials. Information from databases, sensors, messages, radios, CAD, mobile devices and records are integrated into a single platform for user review, sharing, and decision-making. Through the integration of New World Mobile Computing with embedded Esri mapping and AVL capabilities, personnel can report all unit and incident activities from the field. Information can be shared immediately with personnel who are remote and on-scene, both within disciplines, and across other agencies and jurisdictions.

The New World Public Safety platform integrates with all New World software. The integrations include:

- New World CAD: provides dispatchers with the tools necessary to make decisions quickly: can operate without a server connection, verify addresses, and dispatch units based on proximity
- New World Records Management: provides agencies with the tools to collect, analyze and store information; enables secure information sharing of investigations, permits, registrations, evidence, trainings and more among agencies
- New World Fire: provides first responders with tools to respond to incidents, allocate resources and maintain communication with command staff through unit status monitors and silent messaging

Please contact the vendor for pricing information.

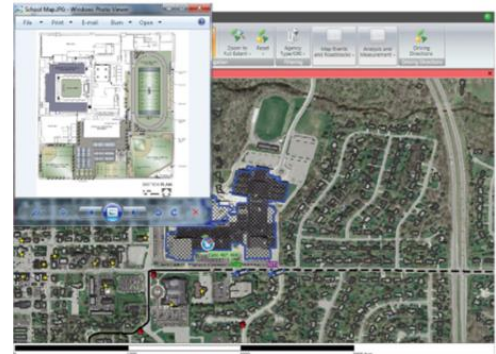


Figure 3-31 New World Public Safety Platform, Desktop View

Image credit: Tyler Technologies

3.36 Veoci – Veoci

Veoci is a virtual EOC environment with an integrated mapping capability that is available as SaaS and on mobile (Android, iOS) devices.

Veoci is designed for incident collaboration and includes support for pre-incident planning. Users can develop tailored plans to launch within the system once an incident occurs. Included features also provide support for developing IAPs and implementing of ICS. Point-and-click configurable online forms allow users to document critical information and processes.

Users of Veoci’s desktop and mobile applications can maintain communication and share critical data through features including instant messaging chat, automated conference calls, mass notifications, and sharing of images, files, and locations. Moreover, the SMS text messaging function includes a built-in capability for staff to update their response status along with their reply. Veoci also states that their encrypted messaging and email capabilities provide organizations with a viable communication alternative should the organization’s other systems become compromised. The Veoci mobile application is also capable of maintaining functionality despite a network/data disruption.

Veoci can integrate with other GIS mapping platforms, including Esri and ArcGIS. This allows for bi-directional data exchange between Veoci and external GIS platforms, so that updates and changes are applied in both places. Critical data, including pictures, can be uploaded from the field and incorporated into the incident map. Situational awareness data points can also be updated to indicate event progress or to provide other contextual information. Any changes to data in Veoci are immediately applied across the system, allowing anyone else observing the incident to receive the same, up-to-date information. Veoci’s mapping feature also provides options to visually filter map elements, including the use of geofences.

Veoci offers customization capability through its “no code Application Platform as a Service.” Users can build applications tailored for specific people in their organization and take advantage of functions that establish automations and define customized workflows.

Please contact the vendor for pricing information.

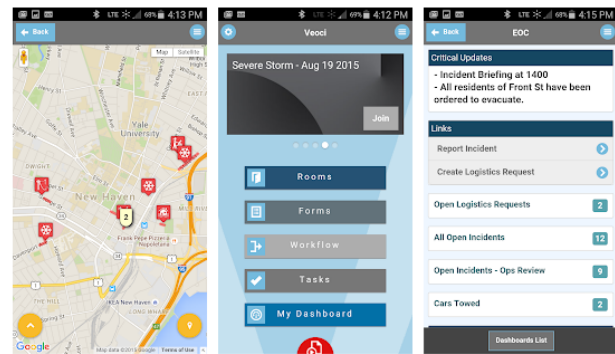


Figure 3-32 Veoci, Mobile App Views

Image credit: Veoci

3.37 Worldwide Incident Command Services – Raven Emergency Management Platform

The Raven Emergency Management Platform (Raven) is a mobile, web-based collaboration and communication platform designed to support all phases of emergency management in preparedness, planning, training, response and recovery. Raven contains a set of tools for developing a common operational picture using primarily graphic visualizations with user designated layers. It follows NIMS ICS structure, processes, and procedures. Raven is based on the DHS S&T-funded Next Generation Incident Command System (NICS) open-source code developed by the Massachusetts Institute of Technology Lincoln Laboratory.⁷ Worldwide Incident Command Services is an official DHS S&T technology transition partner.

In Raven, events are organized into “incidents” and “collaboration rooms.” Access to collaboration rooms can be controlled by name permission and tailored to specific ICS functions or audiences. Users within a room can collaboratively plan and share information with other users in that room. Users can also be designated for specific view-only roles. Raven supports the following user types: read-only, basic, GIS, and administrative.

For pre-incident planning, incidents and collaboration rooms can be created by the event sponsor and prepopulated with information that can be retrieved to support emergencies or events. Response personnel may also create incidents and collaboration rooms during an incident to allow for collaboration, map annotation and sharing, generation of ICS reports, and development and sharing of IAPs. All user-added map annotations, chat, and other data exchanged between a user and the Raven Cloud server are time-stamped and archived in permanent storage. A user’s map annotations can be played back using the “Whiteboard Feature Timeline” function available in each room. Users can customize reports, IAP templates, and map, date, weather and room layers. Data between a user and the Raven Cloud backend server is secured, and all data and processes at the cloud-level are encrypted.

Raven is available as a SaaS and is hosted in the Amazon Web Services cloud, which manages Raven’s processing and most storage. End-users can access Raven on most workstations, laptops, tablets or smart phones running any standard operating system (Windows, OS X, iOS, Android, Linux, other) and using any browser (Safari, Firefox, Chrome, Internet Explorer (Version 9 and later)). If network/data connections are interrupted, actions are stored locally, then updated when communications are restored. The Raven platform is a non-proprietary, open-standard community effort managed by a non-profit public benefit corporation.

The cost for a single user is \$10 per year. No GSA pricing is available. Support for both users and operational support during emergency incidents is included in the annual fee. New or custom development (e.g., addition of AVL or position location information (PLI) data feeds) is at additional cost. The user community can also develop apps and plug-ins to improve and tailor the software.

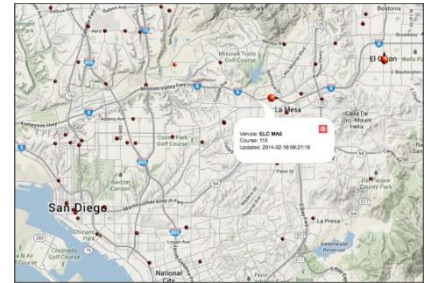


Figure 3-33 Raven Emergency Management Platform, Desktop View

Image credit: Worldwide Incident Command Services

⁷ The NICS open-source code is available on GitHub and through S&T partners. See: www.dhs.gov/science-and-technology/news/2021/07/15/news-release-st-partnership-brings-nics-response-wider-response-community

3.38 Zco – Geoteamz

Geoteamz is an infrastructure for geo-collaboration used by police, fire services, public works and utilities organizations. Geo-collaboration combines mapping, communications, and notifications across devices and operating systems so that geographically dispersed groups of people can work together.

Geoteamz is accessed through subscriptions for specific solutions. Geoteamz City (formerly PublicEye) is a public safety and smart city solution which fuses information from various sources and provides situational awareness, based on the responder's role, by presenting a map-based unified view of data to the responder's mobile device. Users have access to information from 911 calls, pre-made plans, alerts, and real-time GPS locations of apparatus, resources, and people. Text, audio and video chat as well as video broadcasting are available for communications and information sharing within and across departments and regions.

Geoteamz City connects to many data sources including:

- CAD and RMS: basic 911 and related information
- GIS – Azure Maps and Esri support
- Video: from camera systems and drones
- Social Media feeds: for example, Twitter
- Gunshot detection: such as ShotSpotter
- IoT sensor information

Users can customize objects, icons, map layers, layer visibility, map objects and views. User access is set through a role-based system. Security is managed through user roles, encryption and remote shut out. Geoteamz allows users to replay incidents or events.

Geoteamz is available as a cloud-based SaaS and operates on Chrome, Safari, Firefox, Edge and other browsers. It requires minimal configuration. It can be used on phones, tablets, laptops, computers, and Chromebooks. It can automatically update GIS datasets. In the event of loss of communications, not all functions may work.

Information on pricing is available from Zco. GSA pricing is not available.



Figure 3-34 Geoteamz City, Desktop and Mobile Views

Image credit: Zco

4.0 VENDOR INFORMATION

Additional information on the IMS products included in this market survey report can be obtained from the vendors listed in Table 4-1.

Table 4-1 Vendor Contact Information

Manufacturer	Address	Contact Information Phone /Email/Online Form	Website(s)
Adashi Systems LLC	101 N. Haven St. Suite 301 Baltimore, MD 21224	(443) 808-0737 sales@adashi.com	www.adashi.com www.adashi.com/incident-command-software
Advanced Ground Information Systems Inc (Agis)	92 Lighthouse Dr. Jupiter, FL 33469	(561) 744-3213 support@agisinc.com	www.agisinc.com www.agisinc.com/lifering
Ardent Management Consulting	1735 N. Lynn St. Arlington, VA 22209	(703) 964-8010 info@ardentmc.com	www.ardentmc.com
ARES Security Corp	1934 Old Gallows Rd. Suite 410 Vienna, VA 22182	(571) 351-1260 contactus@aressecuritycorp.com	aressecuritycorp.com
Bradshaw Consulting Service Inc	2170 Woodside Executive Ct. Aiken, SC 29803	(803) 641-0960 sales@bcs-gis.com	www.bcs-gis.com/marvlis.html
Buffalo Computer Graphics	4185 Bayview Rd. Blasdell, NY 14219	(716) 822-8668 info@bcgeng.com	www.buffalocomputergraphics.com www.disasterlan.com
CORVENA	1860 Industrial Cir. Suite A Longmont, CO 80501	(412) 206-2990 info@corvena.com	www.corvena.com
D4H Technologies Ltd	177 Huntington Ave. Suite 1703 Boston, MA 02115	(800) 460-0499 info@d4h.org	d4htechnologies.com/incident-management
Drakontas LLC	1777 Sentry Pkwy. W. Suite 302 Blue Bell, PA 19422	(215) 222-1775 info@drakontas.com	www.drakontas.com
Dynamis Inc	8260 Willow Oaks Corporate Dr. Suite 800 Fairfax, VA 22031	(703) 229-3438 sales@cobra2020.com	cobra2020.com
Esri	380 New York St. Redlands, CA 92373	(909) 793-2853 www.esri.com/en-us/contact#c=us&t=1	www.esri.com/en-us/home
First Due	110 Wall St. New York, NY 10005	(516) 874-2258 info@firstduesizeup.com	www.firstduesizeup.com
Geopliant LLC	2831 Summerfield Rd. Falls Church, VA 22042	(844) 273-7658 sales@crisistrack.com	www.crisistrack.com
GeoSafe	1313 Newbury Dr. Norman, OK 73071	(918) 521-2983 contact@geosafe.com	www.geosafe.com

Manufacturer	Address	Contact Information Phone /Email/Online Form	Website(s)
GeoSpatial Technologies Inc	1432 Edinger Ave. Suite 220 Trustin, CA 92780	(714) 861-7033 sales@geospatialtech.com	www.geospatialtech.com
Hangar 14 Solutions LLC	249 Normandy Rd. Mooresville, NC 28117	(704) 799-7515 info@streetwisecadlink.com	www.streetwisecadlink.com
Haystax Technology Inc	8251 Greensboro Dr. Suite 1000 McLean, VA 22102	(202) 492-1659 haystax.com/contact-us/	www.haystax.com haystax.com/platform
Hexagon	14291 Park Meadow Dr. Suite 350 Chantilly, VA 20151	(703) 264-5600 www.hexagonsafetyinfrastructure.com/ contact-us	www.hexagonusfederal.com
Incident Response Technologies	4582 S. Ulster St. Suite 1325 Denver, CO 80237	(866) 260-7333 sales@irtsoftware.com	irtsoftware.com
Intterra	3740 Dacoro Ln. Suite 200 Castle Rock, CO 80109	(720) 376-6813 info@intterragroup.com	www.IntterraGroup.com www.intterragroup.com/ incident-management
Intrepid Networks	1011 E. Colonial Dr. Suite 501 Orlando, FL 32803	(407) 205-2721 info@intrepid-networks.com	intrepid-networks.com intrepid-networks.com/ mission-law-enforcement
Juware LLC	235 Peachtree St., NE Suite 230 Atlanta, GA 30303	(202) 415-4001 info@juvare.com	www.juware.com www.juware.com/webeoc
Mission Manager Inc	970 West Valley Pkwy. Suite 708 Escondido, CA 92025	(619) 457-6119 sales@missionmanager.com	missionmanager.com
Motorola Solutions	500 W. Monroe St. Suite 4400 Chicago, IL 60661	(847) 576- 5000 www.motorolasolutions.com/en_us/ contact-us-form.html	www.motorolasolutions.com/ en_us/products/command- center-software.html
Mutualink Inc	1269 S. Broad St. Wallingford, CT 06492	(866) 957-5465 support@mutualink.net	https://mutualink.net/system -components/
nFocus Solutions	2355 E. Camelback Rd. Suite 250 Phoenix AZ 85016	(602) 954-9557 sales@nfocus.com	www.nfocus.com/geosuite
Noggin IT Inc	1611 Telegraph Ave. Suite 800 Oakland, CA 94612	(678) 492-1992 www.noggin.io/contact-us	www.noggin.io
Priority 5 Holdings Inc	75 Second Ave. Suite 411 Needham, MA 02494	(617) 391-9504 priority5.com/contact/	priority5.com
StratoTask	21 Simcoe St. South Oshawa, Ontario L1H 4G1 CANADA	(905) 686-9549 info@stratotask.com	stratotask.net
Strax Intelligence Group	6420 Congress Ave. Suite 2000 Boca Raton, FL 33487	(561) 409-5545 Info@STRAXIntelligence.com	straxintelligence.com
Tablet Command Inc	PO Box 151467 San Rafael, CA 94915	(209) 483-1513 info@tabletcommand.com	www.tabletcommand.com



Manufacturer	Address	Contact Information Phone /Email/Online Form	Website(s)
Team Awareness Kit	5858 Wilson Rd. Building 367B Fort Belvoir, VA 22060	takmaps.com/home/help-form/	takmaps.com
The Response Group	13939 Telge Rd. Cypress, TX 77429	(281) 880-5000 iapsupport@responsegroupinc.com	www.responsegroupinc.com
Thundercat Technology†	1925 Isaac Newton Sq. E. Suite 180 Reston, VA 20190	(703) 674-0216 support@everbridge.com	www.thundercattech.com
Tyler Technologies	5101 Tennyson Pkwy. Plano, TX 75024	(972) 713-3700 info@tylertech.com	www.tylertech.com/products/new-world-public-safety
Veoci	195 Church St. 14th Floor New Haven, CT 06510	(203) 782-5944 info@veoci.com	veoci.com
Worldwide Incident Command Services Inc	738 Rosecrans St. San Diego, CA 92106	(619) 459-8517 info@ravenwics.org	www.ravenwics.org
Zco Corporation	P.O. Box 3720 Nashua, NH 03061	(603) 881-9191 gm@geoteamz.com	city.geoteamz.com
Notes - Information is not available † Submitted product information for Everbridge Critical Event Management			

5.0 CONCLUSION

Emergency response agencies use incident management software to gather, analyze, and share information about an operating area and to plan and coordinate response activities during expected events and unplanned incidents. IMS is intended to aggregate information in an intuitive map-based environment and assists first responders with planning, management, and reporting.

This market survey report provides information on 38 incident management software products with a wide range of features, installation options, and costs. All of the products in this survey incorporate encrypted communications, customized access levels, and map-based sharing of information. The map interface offers a geographic overview of the locations of an agency's resources. Generally, the map provides limited GIS analysis functionality (e.g., overlay, measurement) with many IMS products supporting simple customization of views and markers, while some allow deployment of custom tools. Because of the map's integration of information, location tracking of fleet vehicles and personnel are common features.

The products vary in their emphasis on planning or response functions, but most IMS have capabilities for both. Collaborative planning to support development of an Incident Action Plan is a common feature, however, the specifics of how IAPs can be entered, maintained, and shared vary among products. Use of NIMS ICS forms is specified for thirteen products. Some software systems allow users to preload customized or standard IAPs. Others have capabilities to support automated plan generation, by leveraging data acquired through manual user input, fillable digital forms, and/or passive data collection through use of the system itself.

The majority of the products integrate with existing computer aided dispatch systems and can receive and display information from other data sources, such as weather sensors and social media feeds. Nearly all products support event logging that can be used for after-action reviews and audit reporting.

The products have distinct differences in their possible deployment strategies: standalone installations on a mobile device, mobile client software with a dedicated backend server configuration at/via the operating organization, mobile client software connected to a cloud server, and SaaS configurations. Directly installed products typically have a PC and mobile version, with a few supporting only the iOS operating system. Though SaaS products can operate on any hardware that supports a browser, many have dedicated Android or iOS installations for mobile users. Each approach has benefits and risks. With SaaS, the data are stored off the device in a secure server which requires a robust data connection, whereas locally installed systems do not require a data connection and store everything locally. (This may, however, make data vulnerable if a device is lost or damaged.) Hybrid instances are also available wherein the user installs an app on a phone or tablet that connects to the SaaS and operates independently during periods when the network/data connection is interrupted.

Reliable data communication capabilities are imperative for most of the evaluated software being used in a multi-user, multi-agency context. Some products are part of FirstNet, a dedicated public safety network with priority network access. Backup data communications beyond cell-based connections (e.g., radio-mesh network, long range data-enabled radio, two-way satellite internet communications) may also need to be considered. As noted previously, the SaaS configurations can run on any hardware that will support a modern web browser, thus enabling greater flexibility in hardware choices and underlying operating systems. Still, capabilities vary with respect to software use when data communications are interrupted or not available.



Some client installed software packages implement local device caching that include reading and writing/logging data to remain functional even when cellular or network data access is not available, thus a measure of software resiliency is part of the software design. Capabilities such as GPS-based resource tracking, messaging, and photo-sharing are not available without data communications, but others such as map functionality, rosters and tasking can still be functional. Messaging, photo-sharing, and shared map annotations may be cached on a user's system and sent when communications are back online. When data communications are restored, data syncing occurs amongst respective devices and backend server/cloud systems to achieve a full audit trail of activities.

Many of the software products on the market are available as single user licenses for less than \$500 annually per user or station, with many as low as the \$200 per year range. For systems that require a backend server, those associated costs typically range from \$2,000-\$5,000 per year. For cloud-hosted services, larger organizations that have more diverse data requirements may see increased costs to handle cloud data storage and access fees. Most, but not all vendors offer a subscription or annual software maintenance fee which also includes customer and technical support. There are a few vendors that charge a flat fee for the software with no limit to the number of users, though there may be cases of cloud-hosted/SaaS implementations where storage and access fees are adjusted to reflect the total use of a system. A benefit to this approach can be the on-demand, capability to scale up for larger events.

Emergency responder agencies should carefully research the overall capabilities and limitations of incident management software in relation to their agency's operational needs when making procurement or acquisition decisions. Different use cases will require different features such as collaborative planning, secure communication, controlled data sharing and scalability. Advantages and disadvantages of different deployment options should also be considered amongst field-users, incident commands, emergency operation centers, and information technology divisions in order to find the best fit for their organization.

6.0 APPENDIX

Table A-1 provides technical specifications for each product listed alphabetically by manufacturer. Product information (listed in column order) is defined as follows:

SaaS indicates whether the software is available as a service from the vendor; i.e., whether the software is centrally hosted and can be accessed by the user through a web browser or an app.

Web Browser Supported indicates whether the software can be accessed through a web browser.

Backend Server Required indicates whether the software requires the customer agency to maintain one or more servers to control data and communication routing and synchronization between field and centralized command center devices. In some cases, the customer has the option of hosting the software themselves which would require a backend server. These instances are marked as “Opt” (for optional) in the table.

GIS Data Import Format indicates which common GIS data formats the software can import and use. Data formats include:

- AVL: Automatic Vehicle Location, combines GPS (including position, speed, heading) and a unique vehicle identifier over a mobile radio or cellular connection to a central server enabling fleet tracking.
- CSV: Standard ASCII data with comma-separated values to separate columns of data.
- GDB: Esri geodatabase format, a proprietary file format that structures GIS data within a single transferable database; readable by many geospatial software packages.
- GRD: Esri Grid format
- Esri REST/Esri’s ArcGIS REST (Representational State Transfer): format to access web-available data services.
- JSON: JavaScript Object Notation format is a common and open standard file format that provides an easy way to transmit and exchange data, particularly over web connections.
- GeoJSON. is an extension format that also encompasses geospatial data.
- KML: Google Earth Keyhole Markup Language.
- SHP: Shapefile format, is a geospatial vector data format developed by Esri for interoperable use among GIS applications.
- XLS: Microsoft Excel format.

OGC Web Services indicates which protocols the software uses for connections to Open Geospatial Consortium (OGC) standard web services. These may include:

- WCS: Web Coverage Service
- WFS: Web Feature Service
- WMS: Web Map Service
- WMTS: Web Map Tile Service

Customer Support Options indicate the types of support available to the software user.

Training Options indicate the types of training available to the software user.

Quick Reference Guide Indicates whether a quick reference guide is available within the software for mobile users.

Table A-1 Product Comparison Matrix

Vendor/Product	SaaS	Web Browser Supported	Backend Server	GIS Data Import Format	OGC Web Services	Customer Support Options	Training Options	Quick Reference Guide
Adashi Systems LLC Adashi Command & Control		–	✓	SHP		Phone Email Instructional Library	On-site (Customer or Vendor) Live Virtual Sessions Tutorial Documents	–
Advanced Ground Information Systems Inc (AGIS) LifeRing	✓	✓		KML JSON SHP *	WMS	–	Web-Available Video Tutorials	–
Ardent Management Consulting Responder Cloud	✓	✓	–	Esri REST GDB GRD SHP *	WCS WFS WMS WMTS	–	–	–
Ares Security Corp AVERT C2	✓	✓	✓	GeoJSON GeoTIFF KML SHP	WCS WFS WMS WMTS	Phone Email Embedded Live Help	On-site (Customer or Vendor) Tutorial Documents	–
Bradshaw Consulting Service Inc. MARVLIS		✓	✓	Esri REST GDB GRD SHP		Phone Email In-person & Virtual Consults	On-site (Customer or Vendor) Live Virtual Sessions Tutorial Documents	✓
Buffalo Computer Graphics DisasterLAN (DLAN)	✓	✓		AVL CSV Esri REST GeoJSON KML SHP XLS	WMS	Phone Email Embedded Help	On-site (Customer or Vendor) Videos Tutorial Documents Exercise Training and Support	✓

Vendor/Product	SaaS	Web Browser Supported	Backend Server	GIS Data Import Format	OGC Web Services	Customer Support Options	Training Options	Quick Reference Guide
CORVENA COR	✓	✓		KML KMZ		Phone Email	On-site (Customer Location) Videos Tutorials Webinars	✓
D4H Technologies Ltd D4H Incident Management	✓	✓	✓	JSON KML	WMTS	Phone Email	On-site (Customer Location) Videos Tutorial Documents Virtual Training	✓
Drakontas LLC DragonForce	✓	✓	✓	ESRI KML SHP		Phone Email	On-site (Customer or Vendor) Videos Tutorial Documents Online Training	✓
Dynamis Inc. COBRA	✓	✓		GeoJSON GeoTIFF KML SHP	Esri WMS WMTS WFS	Phone Email Web Chat User Forums	On-site (Customer or Vendor) Tutorial Documents	✓
Esri ArcGIS Mission	✓	✓	✓	Esri JSON KML SHP *	✓	Phone Email Instructional Library Web Chat (Standard, Priority, & Premium)	On-site (Customer or Vendor) Video Tutorials Online Classes	—

Vendor/Product	SaaS	Web Browser Supported	Backend Server	GIS Data Import Format	OGC Web Services	Customer Support Options	Training Options	Quick Reference Guide
Esri ArcGIS Solutions App	✓	✓	✓	Esri JSON KML SHP *	✓	Phone Email Instructional Library Web Chat (Standard, Priority, & Premium)	On-site (Customer or Vendor) Video Tutorials Online Classes	—
Esri ArcGIS Hub	✓	✓	✓	Esri JSON KML SHP *	✓	Phone Email Instructional Library Web Chat (Standard, Priority, & Premium)	On-site (Customer or Vendor) Video Tutorials Online Classes	—
Everbridge Critical Event Management Platform	✓	—			KML	Phone Email Web Chat	On-site (Customer or Vendor) Videos Tutorial Documents	—
First Due First Due	✓	✓		CSV Esri		Phone Email Instructional Library Web Chat	On-site (Vendor Location) Videos Tutorial Documents	—
Geoplant LLC Crisis Track	✓	✓	—	—	ArcOnline	—	—	—
GeoSafe Inc. GeoSafe	✓			CSV SHP XLS	—	Phone Email	On-site (Vendor Location) Videos Tutorial Documents	—

Vendor/Product	SaaS	Web Browser Supported	Backend Server	GIS Data Import Format	OGC Web Services	Customer Support Options	Training Options	Quick Reference Guide
GeoSpatial Technologies Inc. GST Tracker Suite	✓	✓	✓	Esri SHP		Phone Email	On-site (Customer or Vendor) Live Web-based Training Videos Tutorial Documents	✓
Hangar 14 Solutions LLC StreetWise CADlink	✓	✓		CSV DBS KML SHP	KML WMS WMTS	Phone Email	On-site (Customer Location) Videos In-App Video Tutorial (Mobile)	✓
Haystax Technology Constellation	✓	✓		CSV Esri GeoJSON GeoRSS GPX KML MapBox SHP TXT	WCS WFS WMTS others	Phone Email	On-site (Customer Location) Videos Tutorial Documents Webinar Trainings	✓
Hexagon HxGN OnCall Dispatch Suite	✓	✓	✓	Users select their own map provider	WFS WCS WMTS and others	Phone Email Web Chat Live Help	On-site (Customer or Vendor) Videos Tutorial Documents	
Incident Response Technologies Rhodium	✓	✓		GeoRSS KML SHP	Leaflet WMS WMTS	Phone Email Web Chat	On-site (Customer or Vendor) Videos Tutorial Documents	✓
Intterra Intterra Incident Management	✓	✓		Esri KML KMZ	—	Phone Email	On-site (Customer or Vendor) Videos Tutorial Documents	—

Vendor/Product	SaaS	Web Browser Supported	Backend Server	GIS Data Import Format	OGC Web Services	Customer Support Options	Training Options	Quick Reference Guide
Intrepid Networks Intrepid Response	✓	✓	Opt	REST/JSON-based API Future: Esri ArcGIS GeoEvent server		Phone Email	On-site (Customer or Vendor) Videos Tutorial Documents	✓
Juvarre LLC WebEOC Pro	✓	✓	Opt	Esri Feature Service Esri Map Service GeoRSS KML SHP WMS	GeoTIFF GeoRSS KML WMS	Phone Email Embedded Live Help Dashboard Tutor	On-site (Customer or Vendor) Videos Tutorial Documents Conferences	✓
Mission Manager Inc. Mission Manager	✓	✓	✓	KML	—	Phone Email Instructional Library	On-site (Customer or Vendor) Online Tutorials Videos	—
Motorola Solutions Command Center	✓	✓	✓	Esri		Phone Email	—	
Mutualink Inc. Interoperable Work Station (IWS)	✓	✓		AIS KML KMZ		Phone Email Web Chat Embedded Live Help	On-site (Customer or Vendor) Videos Tutorial Documents	✓
(SWMG Productions, Inc. dba) nFocus Solutions GeoSuite	✓	✓	Opt	Esri Google Maps GML GeoJSON file support KML SHP	WFS WCS WMTS	Phone Email Web Chat Embedded Live Help	On-site (Customer or Vendor) Videos Tutorial Documents	✓

Vendor/Product	SaaS	Web Browser Supported	Backend Server	GIS Data Import Format	OGC Web Services	Customer Support Options	Training Options	Quick Reference Guide
Noggin IT Inc. Noggin 2.0	✓	✓		JSON KML SHP	WMS	Phone Email Embedded Live Help (Basic, Premium, & Enterprise Levels)	On-site (Customer or Vendor) Videos Tutorial Documents	—
Priority 5 Holdings Inc. TACCS (Touch Assisted Command and Control)	✓	✓	Opt	Standard GIS backends, Raster and Vector formats ESRI ArcGIS GeoJSON KML WFS WMS	GeoRSS GML KML WFS WMS other OGC stds added as needed	Phone Email Web Chat	On-site (Customer or Vendor) Videos Tutorial Documents	✓
StratoTask VANTAGE	✓	✓		File-based Databases Live Integration (API) (in either direction, Raster or Vector)	WFS with WCS & WMTS on-demand for larger implementations	Phone Email	On-site (Customer or Vendor) Videos Tutorial Documents	✓
Strax Intelligence Group STRAX Platform	✓	✓		—	—	—	—	—
Tablet Command Inc. Tablet Command	✓		✓	ESRI		Phone Email Web Chat	On-site (Customer Location) Videos Tutorial Documents Web-Based	✓

Vendor/Product	SaaS	Web Browser Supported	Backend Server	GIS Data Import Format	OGC Web Services	Customer Support Options	Training Options	Quick Reference Guide
Team Awareness Kit TAK		✓	✓	DTED GeoPackage GeoTIFF GPX KML SHP XML	WMTS	—	On-site (Vendor) Online Video Tutorials User Community	—
The Response Group IAP Software	✓	✓		Front end: ARCGIS Server Service KML SHP WMS Back end: ARCGIS Server and Image Service GeoRSS KML WMS	WMTS	Phone Email Web Chat Live Help	On-site (Customer or Vendor), Videos Tutorial Documents, Computer-Based Training	✓
Tyler Technologies New World Public Safety	✓	—	✓	Esri ArcGIS	—	Phone In-person Online Tickets Chat	—	—

Vendor/Product	SaaS	Web Browser Supported	Backend Server	GIS Data Import Format	OGC Web Services	Customer Support Options	Training Options	Quick Reference Guide
Veoci Veoci	✓	✓		Aeris Weather Aloha Plume AVL Trackers CAD data (via email or custom API) CSV Esri ArcGIS services Esri online services GeoJSON KML MASAS Mesonet Services SHP XLS	WCS WFS WMTS others Can be configured for all OGC depending on requirements	Phone Email Web Chat Live Help	On-site (Customer or Vendor) Videos Tutorial Documents Virtual Instructor Led	✓
Worldwide Incident Command Services Inc. Raven Emergency Management Platform	✓	✓	✓	GeoJSON GeoTIFF GeoRSS GPX KML KMZ SHP	ArcGIS Feature Service ArcGISRest WFS WMS	Phone Email Web Chat	On-site (Customer or Vendor) Videos Tutorial Documents (Online/Embedded) Online	✓
Zco Corporation Geoteamz	✓	✓		KML SHP *		Phone Email Web Chat Ticketing System	Videos Tutorial Documents Live Remote	✓


Notes:

— indicates information was not provided by the vendor and/or could not be confirmed via the vendor website or another source

* Other formats are available

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